DOCUMENT RESUME

ED 138 099 FL 008 518

AUTHOR Kernan, Keith T.
TITLE The Acquisition of Language by Samoan Children. Working Paper of the Language Behavior Research Laboratory, No. 21.
INSTITUTION California Univ., Berkeley. Language and Behavior Research Lab.
SPONS AGENCY California Univ., Berkeley. Inst. of International Studies.; National Inst. of Mental Health (DHEW), Rockville, Md.
PUB DATE Sep 69
GRANT MH-25703; R04-MH-12676-01
NOTE 139p.; Ph.D. Dissertation, University of California

EDRS PRICE MF-$0.83 HC-$7.35 Plus Postage.
DESCRIPTORS *Child Language; Doctoral Theses; *Language Development; Language Patterns; *Language Research; Learning Processes; Learning Theories; Linguistic Theory; Preschool Children; *Samoan; *Semantics
IDENTIFIERS Samoa

ABSTRACT

The purpose of this study was to gather information on the acquisition of non-Indo-European languages. The field work was conducted in the village of Faleasao on the island of Ta'u in the Manu'a group of American Samoa from June, 1968 to June, 1969. The data collected consists primarily of tape recordings of naturally occurring and elicited speech from twelve children between the ages of two and five years who were visited on the average of once every two months. The tape-recorded data upon which this paper is based consists exclusively of that collected on one visit each to two of the youngest children in the sample. In order to understand the process of acquisition, semantics must be considered. Models were written to describe the utterances produced by the two children. The linguistic output of each child was analyzed in an attempt to discover the semantic relationships it expressed and to discover the linguistic strategies employed by the children to realize those semantic relationships. (Author/CFM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED138099

THE ACQUISITION OF LANGUAGE BY SAMOAN CHILDREN

Keith Thomas Kernan

Dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Philosophy in Anthropology in the
Graduate Division of the University of California, Berkeley

Working Paper No. 21

Language-Behavior Research Laboratory

September 1969

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The Language-Behavior Research Laboratory
is funded by a grant from the Institute of International Studies.
University of California, Berkeley
whose support is gratefully acknowledged.

FL008518

The Acquisition of Language by Samoan Children

By

Keith Thomas Kernan

B.S. (University of Wisconsin) 1963

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Anthropology

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA, BERKELEY

Approved:

Susan Ervin-Tripp

Paul Kay

Committee in Charge

Degree conferred..
Date

TABLE OF CONTENTS

Chapter Page

PREFACE....................................iv

1 INTRODUCTION..............................1

1.1 Lifespace of the Children of Faleasao......3

1.2 Daily Routine of Pre-school Children.......8

2 THE DATA FROM SIPILI.......................18

2.1 Sipili's Household and Linguistic Interaction Network.......................18

2.2 Sipili as Subject..........................20

2.3 The Setting in Which the Data Was Collected..............................21

2.4 Pivot Constructions........................23

2.4.1 Pivot Constructions in Sipili's Speech...................................24

2.4.2 Explanation of the Pivot Constructions....28

2.4.3 Other Utterances of More Than One Lexeme....................................38

2.4.4 Functions of the Pivot Utterances.........44

2.4.5 The Learning of Pivot Constructions.......48

3 SIPILI GRAMMAR.............................58

3.1 Inadequacy of Pivot Grammars..............58

3.2 Bloom's Approach..........................60

3.3 Inadequacy of Bloom's Approach............64

Chapter Page

3.4 A Semantic Approach....................66

3.5 Rules of the Grammar...................68

3.6 The Grammar...........................73

3.7 Form Classes..........................75

3.8 Utterances Not Accounted For by the Grammar...........................76

3.9 Semantic Relationships in Sipili's Speech................................79

3.10 Relationship of a Semantic Model of Grammar to Language Acquisition.........81

3.10.1 The Acquisition of Semantic Relationship Rules............................81

3.10.2 The Acquisition of Realization Rules....84

3.11 Summary...............................86

4 TOFI GRAMMAR..........................91

4.1 Tofi's Household and Linguistic Interaction Network....................91

4.2 The Setting in Which the Data Was Collected.............................92

4.3 Rules of the Grammar..................93

4.4 Form Classes.........................111

4.5 The Grammar..........................114

4.6 Utterances Not Accounted For by the Grammar..........................115

4.7 Summary..............................120

5 CONCLUSION...........................122

REFERENCES CITED....................................126

APPENDIX A: Utterances of more than One Word in the Data from Tofi.................128

PREFACE

The present work was written during the tenure of N.I.M.H. Research Fellowship F1-MH-32, 886-01. The field work upon which it is based was supported by N.I.M.H. Research Grant R04-MH-12676-01.

I owe a debt of gratitude to Susan Ervin-Tripp, John Gumperz, Paul Kay and Dan Slobin who guided and supervised my studies, my field work, and the preparation of my dissertation. I also wish to thank my friends and colleagues Ben Blount, Jan Brukman, and Brian Stross for their helpful criticisms and stimulating discussions regarding my work.

A special thanks is due to Tualemoso and his family for their love, aid, and care during my stay in Samoa.

Most of all, I wish to thank my wife, Claudia. She helped with both the field work and writing, and she makes it all worthwhile.

CHAPTER 1

INTRODUCTION

The acquisition of language by children has long been of interest to students of human behavior (see McCarthy 1959; Leopold 1952; Ervin Tripp 1966; for bibliographies). Recent attention has been focused on the acquisition of grammar by young children and a number of studies have been done of the early grammatical development of English speaking children. A few studies have also been done in other languages, mostly Indo-European languages (see Slobin 1966, for example).

One of the goals of most of these studies has been to shed some light on what might be universal processes of language acquisition. That is, research has been directed toward the study of not only how a particular child acquires English, but how children acquire language. Since the process of a particular child's acquisition of English may be affected by properties of the English language itself, it is difficult, at best, to attempt to postulate universals of language acquisition based upon the study of the acquisition of English alone. While the inclusion of Indo-European languages other than English broadens the base of data from which statements regarding the language acquisition process may be drawn and may permit the exclusion of some aspects of that process from a universal theory of language acquisition on the basis that they are language specific, it still only allows for statements regarding the acquisition of Indo-European languages and not for language in general. Information on acquisition of non-Indo-European languages is necessary to further eliminate cultural and language specific factors from an explanation of the language acquisition.

With the goal in mind of encouraging research on the acquisition of language in a number of non-Indo-European languages and thereby providing a cross-linguistic laboratory for the study of language acquisition in general, a field manual was written by a group of anthropologists, linguists, and psychologists (Slobin 1967). This field manual was used as a guide for the field work during which the data, upon which the present paper is based, was gathered.

The data collected consists primarily of tape recordings of naturally occurring and elicited speech from twelve children between the ages of two and five years who were visited on the average of once every two months. At each visit, the children also performed sentence imitation and sentence comprehension tasks.

Additional data from other children on various topics such as children's rhymes and songs, identification of plants, recitation of prayers, etc., was also collected. In all, over one hundred tape recordings were made and most of them have been transcribed. The tape recorded data upon which this paper is based, however, consists only of that collected on one visit each to two of the youngest children in the sample. It is felt that, given the present development of the study of the acquisition of language, the most useful approach is one which attempts a detailed analysis of the speech of a few children rather than some sort of statistical analysis of the speech of many children.

The field work was conducted in the village of Faleasao, on the island of Ta'ū in the Manu'a group of American Samoa from June, 1968 to June, 1969.

The village of Faleasao occupies a stretch of beach on the island of Ta'ū. There are two other small villages on the Island: Ta'ū, which has a population of about one thousand and is approximately one mile from Faleasao, and Fitiuta, which has a population of about seven hundred and is located approximately seven miles from Faleasao.

1.1 Lifespace of the Children of Faleasao

Faleasao itself has a population of about three hundred people who constitute some thirty households. The households are generally made up of more individuals than a single nuclear family. There is no rigid pattern to the composition of the households as the residence pattern is one of ambilocality. Generally, however, the households are composed of either a nuclear family, a nuclear family plus the parents of one of the spouses, or a few siblings, their spouses and children.

Each household is headed by a _matai_ who holds the hereditary title of chief or talking chief and represents the household in the village council of chiefs. The _matai_ has the responsibilities of administering the resources of the households, directing its activities, and seeing that each member receives his fair share of the household's income of food and money. The members of the household owe, in turn, to the _matai_ their allegiance, cooperation, and labor. The household acts as an economic unit, and though it may consist of more than one house, a household's members share the resources available to that household.

Falcasao is a relatively homogeneous village. There is role differentiation within households, and households vary in the amount of cash income they receive. The hereditary titles of the _matai_-s are ranked, but the effect of the ranking is mostly in ceremony and has little to do with day-to-day interaction within the village.

The life-style in one household is much the same as in any other household in Faleasao and there is regular and frequent face-to-face interaction between all of the members of the village.

The village may be viewed as the daily linguistic interaction network of any one of its members in that any resident of the village is more likely to engage in verbal interaction with a fellow member of the village than he is with members of any other village or larger grouping on any given day. Most individuals in the village have larger linguistic interaction networks of which they are also members, of course. A few households maintain almost daily contact with relatives who live in the village of Ta'ū for example. Even the members of these households are likely to engage in more verbal interaction with a fellow villager on any given day than with an outsider however.

Within the village there are individuals who have rather limited contact with others. Old people who are infirm and no longer able to walk about, and young children who are restricted to areas close to the household, have contact with fewer people each day than do some other members of the village. The village itself however is the important linguistic interaction network for most of its members and the difference in the frequency of interaction between villager and villager, and villager and non-villager is great.

The fact that the village may be defined as a homogeneous linguistic interaction network with discernible boundaries does not imply that individual members of this network do not have other smaller networks of which they are members and which also have recognizable boundaries. The matai-s, for example, as members of the fono (meeting of chiefs and talking chiefs) are members of a network from which all others are excluded, and a style of language is used in the fono which is not ordinarily used in the village. Most villagers therefore do not have a command of the style used in the fono. An important boundary in the linguistic interaction network of every villager is the village boundary, and the village itself is therefore a discernible language community.

As mentioned above, a household may consist of one or more houses. The number of houses constituting one household is usually two or three and they are generally contiguous and are distant by no more than twenty or thirty yards. A few households do have houses set apart, and generally that house is occupied by an elderly relative.

The houses themselves are of two common types. They may be a Samoan *fale* which is a circular or oval house with a thatched roof. The *fale* has open sides with palm frond blinds which may be lowered and coral gravel floors which are partly covered with pandanus mats. The *fale* is not partitioned, and it forms one large circular room. Household and personal items are stored in the rafters or in boxes, chests of drawers, and cabinets along the sides. A *fale* also sometimes contains a kerosene stove for light cooking and a pile of sleeping mats or a mattress which is the bed of the *matai*. Except for the areas containing the stoves and the *matai*'s bedding, the area of the *fale* is generally undifferentiated as to function. In fact, since most *fale*-s do not contain beds or stoves, the usual case is for the *fale* to be completely undifferentiated as to permanent function.

Another common type of house, for those who can afford it, is the *palagi* (European style) house. It is a wooden structure with tin roof and cement floor. The area is usually divided into one large central room and several smaller rooms. The large room serves as a central living room for any kind of household activity: sleeping, visiting, working. The smaller rooms are sleeping rooms for individuals, spouses or children.

No household in Faleasao consists of more than one _palagi_ house. Of the ten or so households with a _palagi_ house, all but one also contained one or more _fales_. _Palagi_ houses are more prestigious than they are functional, and even those people who sleep in them spend most of their indoor, waking hours in one of the _fale_-s of the household. Though young children are not expressly restricted, they seldom spend much time in the _palagi_ houses.

1.2 Daily Routine of Pre-School Children

Before they are able to walk, infants spend most of their day inside a _fale_ under the care of their mother or some other female member of the household. When older girls of the household are not in school, they usually are responsible for caring for the younger children. If the caretaker has a visit to make or a task to perform in some other part of the village, the young child is carried along on the caretaker's back. When the caretaker is working within the _fale_, the baby is permitted to crawl or toddle about on the mats and is restricted only from wandering out into the hot sun or from injuring itself in some way. Samoans love babies, and as a result, the child is certain to be showered with attention from family and visitors. If the child wishes attention it is likely to get it and even the most ancient and venerable matai cannot resist holding and playing with the babies of the household.

Once children are able to walk, they are permitted to go from house to house within the household if there are adults or older children to care for them within the visited houses, and to play outside of the houses in the household area within view of their caretakers. They are also permitted to accompany older children in their play but are usually not taken far from home. A play group of pre-school children may wander a hundred yards from their households, but are always within calling distance of some household. Pre-school children of four or five years may accompany older children of the household in their play throughout the entire village but usually they can be found in their own end of the village not far from home.

Other than caring for infants, in the sense of keeping them from harm, pre-school children have no regular tasks to perform. They may imitate the work of the elders and very young children may be seen helping the older children pick up leaves in the yard, or, with miniature buckets made from tin cans and a small stick for a yoke, helping their sister carry water, but they are not required to do so.

The pre-school children interact linguistically with many interlocutors, including all of the adults of their household, visitors to the household, and any other adult they may encounter in the course of their play. Once a child is able to walk, however, most of its linguistic interaction is with other children and adolescents. During the day when the child is at play, its companions are other pre-school age children. In the afternoon and evening, it is usually cared for by an adolescent girl.

The two Samoan children, Sipili and Tofi, whose speech is discussed below, are pre-school children who are old enough to walk. All such children in the village of Faleasao are members of an informal age-group and have daily routines and linguistic interaction which are roughly similar. A brief and generalized description of the daily routine and linguistic interaction of an average child of this age group will be presented here to provide some idea of the context in which they acquire their language.

A young Samoan child begins his day about seven o'clock in the morning when he is awakened by the other members of the household who start their day at about six o'clock. The school age children are bathing at the village well and preparing to leave for school. The adults have either gone to perform some task at the household's garden on the side of the mountain, or are elsewhere in the village, or are working or sitting about the fale. The school children eat some cold baked bananas or taro left over from the previous evening meal and the younger children are also given some to eat. After the older children have departed for school, the youngsters are taken down to the well and bathed by an adult female. The woman usually brings some clothes along to wash at the well, and when she does, the children are sent home to be dried off and dressed by another woman of the household. After that, the young children either play among themselves in the fale in which the women are sitting or go to play in some other fale of the household. They may wander to a neighbor's fale to play with the children there or join a small play group of their age mates on the beach near the household. During the day the children are permitted to play freely within these spatial limits but are often told to play in the shade or in a fale during the hottest part of the day. Until they are five or six, children are required to take a nap for an hour or so during the early afternoon.

From the time the older children leave for school in the morning until they return in the afternoon between two and three o'clock, the pre-school children are usually in the company of between one and five of their age mates and interact linguistically almost exclusively with them. About the only linguistic interaction with adults during this time of day is in the form of requests from the children and shouted questions or commands from the adults.

The children themselves, however, will interact linguistically a great deal during the course of their play. If the play is active, such as tag or cowboys and indians, the speech activity will consist mainly of excited shouts interspersed with occasional angry accusations. More often small groups of children will be engaged in some kind of less active play which includes a more intense use of speech. A group of little girls may play house with their dolls inside of a fale, some little boys may talk excitedly while searching for hermit crabs, or a small band of both boys and girls may be pretending to shop at an imaginary store one of them is running.

The speech behavior engaged in by young children with other young children during the course of their play includes role playing, arguing, commands, directions, chants and songs, and other kinds of linguistic interaction. The things discussed and talked about are many and the major part of the child's total active linguistic interaction during the course of a day takes place with other young children while he is at play. During his play, a young child is often in a position to overhear the conversations of the adults around him, particularly the women since they are more likely to be working in the vicinity of the household than are the men. With the exception of the few kinds of speech events mentioned above, little of the adult speech is directed to the young children. For most pre-school children, then, the major part of the linguistic input to which they are exposed each day during the school year from the time they arise in the morning until two or three o'clock in the afternoon comes from other pre-school children. The linguistic input they receive from adults during these periods consists of short commands and questions and overheard conversations.

When the older children arrive home from school, they and the younger children and perhaps some of the adults of the household eat a light meal or snack. This meal is an informal affair and the household does not partake of it as a group. Rather, the school children will eat some rice which has been prepared by one of the adults or perhaps some cookies as they arrive home from school. The younger children will join them if they so choose. The result is that a small group, of which the composition keeps changing as the children arrive or finish eating, is formed in one of the fale-s.

From the time the older children return from school, or all day on the days there is no school, the interlocutors of a young child are likely to be school age children as well as children of their own age range. Slightly older brothers, sisters, and cousins join the pre-schoolers in their play while the adolescents of the household perform their daily chores and act as the caretakers of the younger children. Until evening, the younger children continue to play and the adolescents work or occasionally join the youngsters at play.

Between six and seven o'clock in the evening everyone in the village bathes again at the well. From then until the evening meal at about eight o'clock is a time of relaxation and prayer. Members of households gather together in one of the palagi houses or fale-s of the household. Gossip is exchanged and events of the day are discussed. It is a time for the household to be at ease and together. It is at this time when the most intensive linguistic interaction between young children and adults is likely to occur. Children tell of their experiences during the day and vie for the attention of the adults. The youngest daughter is usually to be found in her father's lap coyly monopolizing his happy attention. Other children may be listening to a high school boy recounting something that had happened during the day, while still others may be presenting evidence to their mother of the justness of their own position in some dispute with a sibling.

A young child may be called upon to perform linguistically for the entertainment of the others and may be asked such questions as: "Who is your father?", "What is the name of your Savior?", and so forth. He may be asked to count to ten, or to recite an alphabet rhyme. Other young children may imitate a game they have heard the school children play to demonstrate their skill in English. They will test one another's skill in providing the correct English translation of a number of Samoan words.*

At about seven-thirty a gong is sounded at the village church which signals the time when everyone in the village must be indoors. This is the time for each household to sing a hymn and to pray. Seated on the floor in a circle, the entire household joins in the singing. Even the youngest children join in on the parts they are familiar with. The prayer is said by the matai while the rest of the family sit silently.

---

*While almost all adults have at least some limited command of English, and the school children are being taught English at school, it is used in the village only when one is speaking to an American who does not understand Samoan, and the younger children are seldom exposed to an English sentence.

During the evening meal, which is eaten by all the people of the household together, the same kind of talking that preceded the hymn and prayer goes on. Following the meal, the adults sit and talk and may receive visits from friends in the same fale or some other fale of the household or some may go visiting themselves or go sit on the beach and watch the school's television set, which has been placed in front of a window and which for a few hours each evening shows programs broadcast by American Samoa's educational television station. The younger children may play in the fale-s among themselves or with the children of visitors, continue to interact with the adults, go visiting or watch television with adults or older children, or go outside and play again. If the night is moonlit it is almost certain that the children will be outside playing. The younger children usually retire for the night when the rest of the family does, generally around eleven o'clock or midnight, but may have dropped off to sleep before then.

Before a young child reaches school age, one day's activities are much like those of any other day. He is in the company of other pre-school children all day, and interacts linguistically most intensively and frequently with them. When school children who are only slightly older than him are not in school, they form a part of his play group. His main active linguistic interaction with adults takes place preceding, during , and after the evening meal.

CHAPTER 2

THE DATA FROM SIPILI

2.1 Sipili's Household and Linguistic Interaction Network

At the time of the visit with him, Sipili was a young Samoan boy who lived in an extended household which included his mother's father, age 68; his mother, age 33; his mother's sister, age 18; his mother's brother, age 26; his mother's brother's wife, age 22; two brothers, ages 8 and 6; two sisters, ages 4 and 6 months, his mother's brother's daughter, age 6 months; and a male cousin, age 16. Sipili's father, who is one half Chinese by birth but completely Samoan by culture, lived and worked on the island of Tutuila some eighty miles from the village of Faleasao. He returned to the village once every four months or so and considered it his home. He contributed most of his wages to the family's financial support.

Sipili's primary caretaker was his mother; although as is the case in most Samoan households, all adults and adolescent females shared the responsibility and pleasure of caring for the younger children. Musu, his mother, indulged her children a bit more than is typical of Samoan mothers and one of the manifestations of this indulgence was a greater freedom of range in their play for Sipili and his siblings than is the case for most children of their age in the village. Sipili often participated in the play group of his four year old sister and six year old brother. He sometimes traveled as far as two hundred yards from his home to play at a household separated by five others from his own. This was unusual for a child of his age and as a result his linguistic interaction network was slightly more extensive and included a few more children than would normally be the case. It is doubtful, however, that the extension of his linguistic interaction network resulted in any significant change in either the quantity or the type of linguistic input that Sipili was exposed to. As mentioned above, the linguistic community within the village is homogeneous in that any particular child is likely to be exposed to the same kind of linguistic input that other children receive. At any rate, Sipili's primary sources of linguistic input were the members of his household.

2.2 Sipili as Subject

Sipili was visited twice during the first week of May, 1967. At that time, he was two years and six months old. This was during the final full month of my field research and represents a last-ditch effort to obtain data which might be comparable to that obtained from American children at a two word utterance stage. Many attempts had been made prior to this time to work with children between one and two years of age. All were fruitless, due primarily to the children's fear of strangers.

While Sipili was far from the ideal subject that some American researchers working in their own culture have been able to find, he did offer several advantages. Firstly, I had observed through my limited contact with him that most of his utterances were one or two words in length, despite his advanced age when compared with American subjects. Secondly, though he would not speak freely in my presence, both his mother and his aunt were willing to devote the time required to tape record a number of utterances from him. His aunt had been my assistant for a time, and both she and the mother understood the task. Thirdly, the aunt was willing and able to go over the tape recordings with me immediately after they had been made and to give me an account of the extralinguistic features of the interaction that had taken place and a semantic interpretation of Sipili's utterances.

2.3 The Setting in which the Data Was Collected

The first visit consisted of Sipili's interacting with his mother in the house of a neighbor. The second visit was conducted by Sipili's mother and aunt in their house.

At the time of the two visits with Sipili, he was 30 months old. The sample totaled about six and one-half hours for the two visits and yielded over 850 utterances with a mean length of utterance of 1.52 morphemes. The longest utterance consisted of four morphemes. It must be pointed out that the situation in which the utterances were recorded was not a normal one for either Sipili or for his mother and aunt. As mentioned above, intensive linguistic interaction between adults and very young children is not a regular occurrence in Samoa. The mother and aunt, therefore, had only one culturally defined method of eliciting utterances at any useful rate from Sipili, that of asking questions so as to display the linguistic ability of their child to visitors. Of course, the aunt and mother engaged Sipili in this activity for a much longer period of time than would have been the case had I been only a casual visitor to the household. As a result, Sipili was asked a greater number and a greater range of types of questions than the most culturally common ones described on page 15 above. The circumstance was one which does not often occur in Samoan life and was, as a result, artificial. Given the task of eliciting utterances from Sipili and having no culturally defined procedure for engaging him in conversation as they would another adult, they relied on the procedure that produced the highest rate of utterances; moreover, these questions were often of the type that could have been answered in a very few words even by an adult. Questions such as *Leā le igoa 'o le mea lea*? "What is the name of that thing?" were asked, for example. A correct adult response to such a question might be *le ili* "the fan", and Sipili gave such answers.

The point is that the setting and the linguistic context in which Sipili's utterances occurred may have influenced the relative frequency of particular constructions in his speech and therefore the mean length of his utterances. Of course, many of Sipili's utterances were not in direct response to questions and these utterances were never any longer than his answers and usually consisted of only one or two morphemes.

Further, many of the questions were of the type that would have been answered by adults with much longer utterances than those given by Sipili. It is my impression that, had Sipili's speech occurred more freely, the frequency with which constructions such as noun phrases appeared would have been altered but that the mean length of his utterances would not have been greatly affected.

2.4 Pivot Constructions

As mentioned above, a great deal of work has been done on the two word utterances of English speaking children from the point of view of defining and analyzing the pivot structure of those utterances. A number of Sipili's two word constructions exhibit many of the characteristics of pivot structures, and they will be discussed here to provide a basis for possible comparison with work done in English.

There are five forms which on distributional grounds appear to be pivot words. That is, they occur with high frequency with a larger class of words, the individual members of which occur less frequently than do the pivot words. They are also in a fixed position. An individual pivot word always occurs either before or after the open class word but not sometimes before and sometimes after.

2.4.1 Pivot Constructions in Sipili's Speech

The five pivot forms in Sipili's speech are le, 'O, ma, a'u, and 'oe, which mean respectively "the", "sign of the nominative" (see Argoff 1968:4; Churchward 1951; Marsack 1962; Milner 1966; Pratt 1893), "and" or "for", "mine", and "yours". In two word utterances le always appears in first position, 'O in first position, ma in first position, a'u in second position, and 'oe in second position. In each case this is the same relative word order which is exhibited in adult Samoan although Sipili's speech is often telegraphic and omits intervening forms which would occur in the speech of an adult.

Table I gives the occurrences of the pivot words in two word utterances, their translations, and the number of times they appeared in the sample. An asterisk following an utterance indicates that the utterance or an expanded version of it occurred in someone else's speech immediately prior to its appearance in Sipili's speech.

Table I

Pivot Constructions in Sipili's Speech

Utterance	Translation	Number of Occurrences
le ili	the fan	1
le ulu	the head	2
le isu	the nose	2
le lole	the candy	1
le apa	the can	2
le amo	the yolk	1
le a'oga	the school	3
le ota'ota	the rubbish	1
le polo	the ball	1
le lago*	the fly	1
'O So'o	'O + person's name	1
'O Tasi	"	5
'O Musu	"	8
'O Sina	"	3
'O Fai	"	1
'O Lupe	"	2
'O Auvae	"	1
'O Iti	"	1
'O Eli	"	1
'O Nia	"	1
'O Puono	"	1

Table I

Utterance	Translation	Number of Occurrences
'O Sene	"	1
'O Tautuā	"	1
'O Fale	"	1
'O Fuiava	"	1
'O 'oe	'O + you	2
'O a'u	'O + I	8
ma So'o	and So'o	1
ma Claudia	and Claudia	1
ma Fai	and Fai, for Fai	7
ma Sua	and Sua	1
ma Losi	and Losi	1
ma Peva	and Peva	1
ma Fale	with Fale, for Fale	3
ma Musu	and Musu	1
ma Sina	and Sina	1
ma a'u	and me	1
ma 'oe	and you	4
ma lole	and candy	2
va'a a'u	my boat	1
lole a'u	my candy	17
paluni a'u	my balloon	4
mea a'u	my thing	6

Table I

Utterance	Translation	Number of Occurrences
a'oga a'u	my lessons	3
polo a'u	my ball	5
uila a'u	my bicycle	2
tāupega a'u	my swing	1
sasa a'u	spank me	1
ave a'u	take me	3
ma a'u	and me	1
a a'u	mine	5
o a'u	mine	2
'O a'u	me	8
lole 'oe	your candy	3
polo 'oe	your ball	1
sia 'oe	this (is) yours	2
lea 'oe	this (is) yours	2
tapale 'oe	hit you	1
fasi 'oe	beat you	1
o 'oe	yours	4
ma 'oe	and you, for you	4
a 'oe	yours	1
'O 'oe	you	2

2.4.2 Explanation of the Pivot Constructions

The form le, "the", appeared only in combinations in which it was followed by a noun. The noun phrases le _____ appeared in Sipili's speech, with one exception, only as answers to questions. This particular noun phrase form is a commonly occurring adult Samoan response to some of the questions posed to Sipili. Sipili, however, often answered questions of the same types with a single word response and occasionally with the even more expanded noun phrase 'O le _____. This three lexeme noun phrase is also an appropriate adult response. The single noun utterance is, however, not appropriate in adult Samoan. Sipili answered questions with a noun occurring alone the great majority of the time, with le _____ 15 times, with 'O le _____ five times and with the plural noun phrase 'O _____ eight times.* It was not clear from the context that he was able to handle the plural form appropriately. That is, while the context in which he used the plural form usually contained more than one of the items to which he was referring, it was not clear that he was indeed referring to more than one of those items.

---

* In Samoan when a noun appears with no article it is considered to be plural definite (see Argoff 1968).

Further, the questions which elicited this plural response were usually given in the singular. For example:

1. M: *Leā le mea lea?*
What is that thing?

S: *'O taliga*
the ears.

2. M: *Leā le igoa o le mea lea?*
What is the name of that thing?

S: *'O lole*
the candies

These same questions were at other times answered in the singular even in the same context of more than one of the items being present. For example:

3. M: *Leā le mea lea?*
What is that thing?

S: *le lole*
the candy

4. M: *Leā le mea lea?*
What is that thing?

S: *lole*
candy

Now it could be argued that since the singular and plural forms occur in the same context, they are contrastive and that Sipili is using them correctly in the same way that an adult Samoan would. The questions which elicited the utterances, however, were with one exception always given in the singular. There was one instance when Sipili answered with the 'O _____ form when the context made a plural noun appropriate.

6. M: Leā le mea lea la e u'u mai e Salafai?
What are those things Salafai is holding?

S: 'O ma'a
pieces of coral

An alternative explanation is that Sipili was experimenting with the formation of noun phrases and while in this experimental stage he sometimes used the noun alone, sometimes used the noun with the article le, and sometimes used the noun with both the article le and the noun particle 'o, and that he used the noun with only the noun particle 'O, omitting the definite article and thereby forming a construction that would be plural in adult Samoan, sometimes correctly when referring to more than one object and sometimes incorrectly when responding to a question in the singular.

Sipili used constructions containing le a total of 22 times. 15 of these utterances were the two word constructions appearing in Table I in which le was followed by a noun. There were five constructions in which the noun was preceded by 'o le: 'O le pua'a (the pig), 'O le va'a (the boat), 'O le vai (the water), 'O le moli (the orange), and 'O le apa (the tin can). Le appeared with a noun in two constructions in which the noun was followed by a possessive pronoun: *le isu o a'u* (my nose), and *le a'oga a'u* (my school).

Le a'oga a'u (my school) was the only construction in which *le* appeared which was not an answer to a question. His aunt had just told another child, *Alu ese se'i fai le a'oga a a'u* (Go away, let me do my school, i.e., let me do my tape recording session), and Sipili angrily and emphatically stated that it was *his* school.

Sixteen of the constructions involving *le* were answers to questions which asked that Sipili name some object in the immediate environment as in examples (1) through (6). Of the remaining five constructions involving *le*, two were in answer to questions asking where some person was. For example:

7. M: *Fea Manuita?*
Where is Manuita?
S: *le a'oga*
the school

One was in response to a question asking what gushed out of the rock after Moses struck it:

8: M: *Puna mai ai le a?*
What gushed out of that?
S: *'O le vai*
the water

Another occurred in answer to a question asking what was swept with a broom:

9. M: *Leā le mea salu ai?*
What is swept with that?

S: *le otaota*
the rubbish

Finally, *le* occurred in:

10: M: *'O ai lae pisa mai?*
Who is that noise coming from?

S: *le a'oga*
the school

In Sipili's speech, then, *le* occurred in the answers to questions, and primarily in answers to questions that requested the name of some object in the immediate environment. Nouns appeared alone more often in answers to these questions than did noun phrases including *le*. Of the noun phrases that did contain *le*, the great majority of them were of only two words, *le* plus a noun. *Le* never occurred in an incorrect context such as before a verb or a proper name. When it was used it was used correctly but it was not used at all in most of the contexts where it should have occurred.

The noun particle *'O* has been called "an index to the noun" and "The sign of the nominative" (Pratt 1862:5). Its principle uses are in citation and in marking the predicate nominal when no overt verb occurs in the sentence (see Argoff 1968:4). It always occurs before a nominal expression in isolation or citation and it is in this way that it is used by Sipili.

As indicated in Table I, *'O* occurs before proper nouns a total of 29 times. For example:

11: M: *'O* *ai* *lou* *tāmā*?
Who is your father?

S: *'O* *So'o*

As stated above, *'O* occurred five times in noun phrases of the type *'O* *le* + noun, and five times in noun phrases of the type *'O* + noun.

'O occurred with *'oe* (you) twice and with *a'u* (I) eight times. For example:

12: M: *Eā* *'o* *ai* *na* *aumaia*?
Who brought it?

S: *'O* *'oe*
you

13. M: *'O* *ai* *na* *lauga*?
Who spoke?

S: *'O* *a'u*
I

All occurrences of *'O* were in response to questions. Proper nouns, again in response to questions, occurred without the noun particle *'O* many more times than they did with it.

Ma is used in three ways in Sipili's speech, as "and", "for", and as "with". It precedes a proper noun 17 times, pronouns 5 times, and a common noun twice. When *ma* was used in the sense of "and" it was usually in response to a question. For example:

14. M: *'O ai le igoa sou tei?*
What is the name of your sister?

S: *Upuia*

M: *Ma ai?*

S: *ma Sina*
and Sina

Ma did occur in the sense of "and" in two other contexts:

15. M: *Ua alu Kifi.*
Keith is going.

S: *Ma a'u*
and I

16. M: *E alu a oe e a'au.*
You will go swimming.

S: *Ma 'oe*
and you

Ma in the sense of "for" usually did not occur after questions, but was said to indicate that something that Sipili had was for someone else.

Ma as "with" occurred in response to:

17. M: *'O ai na avea Sina?*
Who did Sina go with?

S: *Ma Fale*
With Fale

As with *'O* and *le*, situations in which *ma* should have been used by Sipili but was not were far more numerous than the situations in which he did use it, but again, he never used it inappropriately.

As shown in Table I, Sipili used *A'u* (I or me) in two word constructions a total of 59 times. In all but 13 of these utterances a'u functioned as a possessive pronoun.

One of the ways of indicating possession in Samoan is to follow the noun which is possessed by the preposition o or a (of) and a pronoun such as a'u (I or me) or 'oe (you). For example: 'O le tusi a a'u (my book), 'O le fale o 'oe (your house), 'O le fale o a'u (my house). Sipili's two word possessive constructions omit the preposition a or o. He did use a'u in the possessive nine times in which he used the preposition however. These forms were:

le isu o a'u	my nose	
polo a a'u	my ball	
paluni o a'u	my balloon	
mea a a'u	my thing	
uila a a'u	my tricycle	
lole a a'u	my candy	(said four times)

The possessives using a'u occurred both as answers to questions and as statements.

The context in which ma a'u occurred has been given above in example (15).

The two instances when a'u followed a verb and did not function as a possessive pronoun occurred in the following context:

18. M: Ue e lē alu ea e lua o ma Tafale i Olosega?
Why didn't you go with Tafale to Olosega?

S: sasa a'u
spank me

M: Gae sasa 'oe?
Because spanked you?

S: 'i
yes

M: e ai?
Who + agentive particle

S: a'u
me

S: Tafale

M: Tafale?

S: 'i
yes

M: Aiseā?
Why?

S: ave a'u
Take me

M: E Musu?
He didn't want to?

S: 'i
yes

S: E musu
He didn't want to.

M: Iā ai?
Who?

S: Tafale

M: Musu Tafale?
Tafale didn't want to?

S: 'i
yes

From the context it is clear that by sasa a'u Sipili meant that Tafale had spanked him. The meaning of ave a'u is less clear. This was Sipili's response to the question, "Why did Tafale spank you?" and "Why weren't you taken in the car?" When his mother suggests that the answer to both questions might be that Tafale did not want to take Sipili along, Sipili readily agrees, so perhaps this is the correct interpretation.

It is interesting to note that when his mother asks him who was the agent who administered the spanking Sipili first says "me" and then corrects himself and supplies "Tafale" as the agent.

'Oe occurred in two word combinations, as shown in Table I, a total of twenty times. In twelve of these utterances 'oe functioned as a possessive pronoun. In the seven pairings of 'oe with a noun or demonstrative pronoun the a or o (of) is omitted as was the case when a'u occurred in these contexts. Only once did Sipili expand this utterance to include the preposition "of". That was in the statement lole o 'oe (your candy). The possessives using 'oe occurred both as answers to questions and as statements.

Ma 'oe occurred as a statement meaning (for you) three times. It occurred once as (and you) in the following contexts:

19. M: *E alu a 'oe e au'au.*
You will go swimming.

S: *Ma 'oe.*
and you

Fasi 'oe occurred in the context:

20. M: *Fa'avave, e latu fasi 'oe.*
Hurry up, or I'll hit you.

S: *Fasi 'oe*
hit you

20a. *Tapale 'oe* (hit you) was a threat Sipili made to his mother. He also once made the same threat with the expanded utterance *Tapale ma 'oe e* (hit for you) and once imitated after his mother *tapale 'oe e* (hit you).

2.4.3 Other Utterances of More Than One Lexeme

The utterances described above were mainly nouns or noun phrases given in answers to questions or to indicate possession. They contain few overt verbs. There were a number of utterances in the sample (in addition to the few which are described above) which included verbs and they are given with their glosses and the context in which they occurred in Table 2. Table 3 presents all other utterances by Sipili of more than one word.

Table 2

Utterances Containing Verbs

No. of Example	Utterance	Gloss	Context
21	*alu fale*	go home	A command made to his sister when she entered the house in which the visit with Sipili was taking place
22	*fia ti'o*	want to defecate	Sipili indicating to his mother that he wanted to defecate. (repeated 3 times)
23	*fai galuega*	do work	Twice after he had been asked where his uncle was working. (*Fai galuega i fea*?)
24	*'aumai Keith*	Keith brought	In response to the question: *E aumai ia ai*? (Who brought you?)
25	*fa'asusu teine*	nurse girl	In response to the question: *O a mea a lou tina loe fai*? (What is your mother doing there?)
26	(*E*) *alu Va**	Va goes	Uttered upon seeing Va walking by.
27	*'aumai Tasi*	Tasi brought	In response to the question: *'aumai ia ai*? (Who brought it) (Repeated 3 times)

---

* The *E* in this utterance is not clear.

Table 2

No. of Example	Utterance	Gloss	Context
28	U lē 'ai	Yes. Not eat.	In response to the question: E fafaga Upuia i lau lole? (Did you feed Upuia some of your candy?) He was then asked: 'O ai e le 'ai? (Who did not eat?) and he responded:
	Upuia		
29	Lē 'ai	Not eat	Indicating his sister would not get any of his candy to eat.
30	Lē 'ai Upuia	Not eat. Upuia	Indicating his sister would not get any of his candy.
31	Lē 'ai 'oe	Not eat, you	Indicating that his mother would not get any of his candy. (occurred 4 times)
32	Lē 'ai lole	Not eat candy	Indicating that his mother would not get any of his candy.
33	Lē 'aua	no don't	A command to his aunt to stop trying to force him to count his candy.
34	sē 'ava	a whine word + don't	A command to his brother to stop trying to take his ball.
35	lē ofi	not fit (me)	In response to the question: Se'evae o ai? (Whose shoes?)
36	fasi 'oe	hit you	(see 20 above)
37	sasa a'u	spank me	(see 18 above)

Table 2

No. of Example	Utterance	Gloss	Context
38	*ave a'u*	take me	(see 18 above)
39	*tapale 'oe*	hit you	(see 20a above)
40	*tapale ma 'oe e*	hit you	(see 20a above)
41	*tapale 'oe e*	hit you	(see 20a above)

Table 3

All Other Utterances of More Than One Lexeme

Utterance	Gloss	Context
Uma *ea*?	?	Given with question intonation. No clear evidence from the context to indicate what was meant.
Lalafai *ea*?	name + *ea*	Given with question intonation. No clear evidence from the context to indicate what was meant.
Matou	(we) or (our)	Said after his mother had said: *'Aoga* *o* *a'u* (my school). His mother then asked: *O* *ai* *matou*? [Who? (or which "we")] To which Sipili replied:
Matou *tamaiti*	we children	
Tamaiti *matua*	older children	
Afatia *ea*?	name + *ea*	Given with question intonation. No clear evidence from the context to indicate what was meant. This utterance occurred when Sipili saw a neighboring child enter the house in which Sipili was sitting.
Pai *Tafale*	Tafale's pie	In response to the question: *Pai* *a* *ai* *lea* *na* *fai* *e* *Mama*? (Whose pie did mama make?)
Leai. *'O* *Fale*	No. Fale	In response to the accusation: *Na* *'ai* *la* *'oe*. (You ate it.)
Matou *mea*	our thing	In response to the question: *Pai* *a* *ai* *lea* *na* *fai* *e* *mama*? (Whose pie did mama make?) Also occurred with pointing to a bicycle.

Table 3

Utterance	Gloss	Context
Polo lea	that ball	In reply to the question: *I fea*? (Where?)
Fale Sina	Sina's house	In reply to the question: *Sina i le fale o ai*? (Whose house is Sina at?)
lole oe lea	Your candy there	Pointing to candy intended for his mother. (occurred twice)
Paluni Mama	Mama's balloon	Indicating the balloon was for his mother.
Ta'avale ai lea?	Whose car is that?	Sipili asked this question pointing to a toy car and then answered it himself:
a a'u	mine	
La'u lole lea	my candy there	Pointing to some candy
i ofu	in the shirt	Said putting some candy into his shirt pocket.
Iosua, *polo a a'u*.	Josua, my ball	Called out to his brother after he had been told to say: *Iosua*, *mai la'u polo*. (Josua, bring my ball.)
Palugi ma Fai	balloon for Fai	Indicating the balloon wss intended for Fai.
Mama. *Pai*	Mama. Pie	Shouted after his aunt had told him: *Vala'au*, *Mama e fai se pai*. (Shout, Mama, make a pie.)

2.4.4 Functions of the Pivot Utterances

Sipili's two word utterances which included the words le, 'o, ma, a'u, and 'oe were classified above as pivot constructions on distributional grounds. That is, each of these words occurred with a class of words which contained a greater number of members, occurred with greater frequency than the individual members of the larger class, and occurred in a fixed position. These are some of the principal criteria used by researchers of the acquisition of English by children. They are strictly distributional and have only to do with the form of the utterances. McNeil (1966:22-23) makes the statement that the basis for classifying words together into a single class is always distributional.

There are other aspects of the forms described as pivotal constructions in the literature, however, which, though perhaps not criterial, are certainly characteristic. These are the "meanings" of the pivot words themselves and their function in the pivot-open construction. Braine (1963) states, for example, that pivot words "resemble" adult function words. Miller and Ervin (1964) state that pivots define the meaning of the sentence as a whole. That is, they "operate" on the open class word and it is by the term "operators" that Miller and Ervin refer to them.

Sipili's pivot words have the properties of adult function words, appearing in utterances that are generally telegraphic versions of an adult utterance. Whether they define the meaning of the utterance as a whole is, however, another matter. For the pivot word to define the meaning of the sentence as a whole it would seem that an utterance consisting of an open class word alone would have a different meaning than an utterance consisting of that same open class word plus a pivot word. This does not seem to be true of two of the five types of pivot constructions used by Sipili. In answer to exactly the same question and in the same extralinguistic context, Sipili sometimes answered with a single open class word and sometimes with that same open class word plus a pivot word. Compare examples (3) and (5). One word responses occurred more often than not in contexts that at other times elicited answers containing the pivot words le or 'o. Given the same linguistic and extralinguistic contexts it would seem that the difference between a one word response and a pivot-open response carried no difference in meaning for either the speaker, Sipili, or for the hearer, Sipili's mother.

In the cases of the use of the pivot words le, and 'O, it would seem that Sipili is learning to construct proper noun phrases in Samoan. In the naming behavior required of him by the questioning by his mother, he is as well understood whether he responds with a single noun or a properly constructed noun phrase and his mother is equally willing to accept either type of response as appropriate. He communicates no additional or disambiguating information by the use of the pivot words in this context. The pivot words here do not define the meaning of the construction as a whole, except perhaps to mark it as a noun phrase; a fact which is already known and determined by the form of the question asked him.

It is true that le and 'O are function words in adult Samoan and that when used by an adult they can convey meaning. Le, for example, is a definite article and contrasts with the indefinite article se. Sipili, however, does not use se. Le alternates with nothing and Sipili's choice between the alternatives of le and nothing signals no difference in meaning. Once se enters Sipili's repertoire, of course, then the use of le will signal (at a minimum) "not se".

The point is, that at this stage in his linguistic development, Sipili uses pivot forms which seem to perform no semantic function for him. He does not need them to be understood and yet he sometimes uses them and uses them in the proper word order and with the correct classes of words.

The use of a'u and 'oe as possessive pronouns is, of course, quite another matter. Their use as pivots does signal a meaning which is not conveyed by the use of the single lexeme from the open class with which they are paired. Sipili could conceivably convey the sense of possession by speaking an open class word such as lole alone while simultaneously clutching his candy to his breast. Perhaps at one point in his development this was how he conveyed the idea that something belonged to him, but at the time of the visit with him, possession was indicated by the use of pronouns. When Sipili formed pivot constructions by using a possessive pronoun with an open class word he was expressing a concept linguistically which for him could not be expressed by the use of the open class word alone. A'u and 'oe are pivot words which clearly operate upon the open class word with which they appear, and, if not define, at least alter the semantic sense of the utterance as a whole. That is, they perform a semantic function and are used by Sipili to convey meaning. They are the linguistic expression of a concept and not simply the realization of a form which more nearly approximates the correct adult form.

Sipili's use of the pivot word ma also added new semantic dimensions to his utterances. In any of the three senses in which it was used (i.e., "and", "for", or "with") however, the semantic impact was not so much upon the open class word with which it was paired as on the unspoken but implied longer sentence of which the pivot construction was a part. That is, the pairing of ma with Sina in example (4) adds a new semantic element to the sentence "Upuia is the name of my sister", rather than to the word Sina. The same is true of examples (15), (16), and (17). Sipili uses ma as a syntactic device to add the open class word to an already spoken or implied sentence, thereby changing, in some fashion, the meaning of that sentence. It defines the meaning of his utterance in the sense that it marks it as a part of a larger sentence and determines its function in that larger sentence.

2.4.5 The Learning of Pivot Constructions

A distinction can be made, then, between those pivot constructions in which the use of the pivot word simply expands the utterance by making it more nearly like the adult equivalent and in which no new semantic dimension is added, and those pivot constructions in which the use of the pivot word does convey additional semantic information and thereby alters the meaning of the utterance as a whole.

The questions may be asked, what knowledge must

Sipili have to form these pivot constructions and how might he have gained this knowledge? It might also be asked: Is there any difference in the kind of knowledge required to produce the two kinds of pivot constructions, and if so, is there a difference in the way this knowledge is acquired?

To use le and 'o in pivot constructions, Sipili must, of course, have learned to pronounce these items. Further, he must have acquired and learned to use the open class words with which he pairs the pivot words. If there are no underlying rules to Sipili's use of these particular pivot words, that is, if the pivot constructions are not productive, then he need learn further only that the pivot words are used with the open class words by adults and to imitate or mimic that use. If on the other hand, Sipili's use of these pivots is productive and rule governed, then he must have learned the defining characteristics of the classes of words with which they may be appropriately paired. He must have learned, for example, that le may appear only with nouns, and only with those nouns that are common nouns and not proper nouns. He must have learned that 'o may appear only with proper nouns and pronouns. That is, he must have learned to form word classes with which the appropriate pivot word may properly appear. He must have learned the class Noun as contrasted to other parts of speech and have learned the two subclasses within the Noun class: human and non-human. Further, Sipili must have learned that 'o alone appears only with human nouns, and that le (or 'o le in his three word constructions) appear only with non-human nouns.

Now Sipili has a number of words in his lexicon which he is able to use correctly. These words include non-human nouns such as lole (candy), ili (fan), and 'aoga (school), and names of human beings such as Musu, Fale, and Iti. He knows what these words mean. He knows that lole is the name of an object (candy), and that Musu is the name of a person, his mother. In the majority of the times that Sipili hears these words used by adults they are preceded by le or 'o respectively. He has learned that when adults use a common noun, that noun usually follows the word le and that when adults speak a name, that name usually follows the word 'o, so he has begun to imitate them and to form the same constructions.

The realization that humans differ from other objects in his environment would not seem to be a difficult concept for Sipili to master. That humans differ as a class from other objects is a concept that could conceivably be formed by a young child totally on the basis of non-linguistic evidence and it is possible that Sipili did form human and non-human categories on the basis of this kind of evidence. It is also possible to realize that speakers of Samoan have formed these categories on the basis of linguistic evidence, however, and Sipili probably used both linguistic and non-linguistic evidence to form the two categories which he marks with le and 'o.

He has formed word classes and learned that different markers go with different word classes but by using these markers he conveys no new information. No new semantic function is served by his use of these markers. Whether he says lole or le lole, he is simply engaging in the naming of an object. Whether he says Musu or 'O Musu he is simply engaging in the naming of a person.

It is true that as markers le and 'O have some meaning, but that meaning is inherent in the noun with which they occur and is not added to the utterance by their appearance as pivots.

The use by Sipili of a'u and 'oe as possessives or as objects of verbs in pivot constructions requires the same knowledge as does the use of le and 'O. He must have the open class words with which they occur in his lexicon and he must have classed them as nouns or demonstrative pronouns that can be possessed or as verbs which can take an object. In addition to this minimal knowledge, however, Sipili must also have learned that a relationship of possession can exist between persons and objects, and that objects can be manipulated or acted upon. He must have acquired not only the syntactic devices for expressing these relationships, but the cognitive awareness that such relationships are possible.

When Sipili uses le or 'o as pivot words he is simply engaging in the same naming behavior that he engages in when he uses the open class words alone, and presumably the same naming behavior he was capable of when his utterances were exclusively one word utterances. When he uses a'u or 'oe in pivot constructions, however, he is going beyond simple naming behavior. He is expressing relationships between objects, actions, and persons. This is not to say that when Sipili becomes aware of these relationships he is immediately able to express them, but only that the awareness is a necessary precondition to the linguistic expression of the relationship. When he begins to use these pivot constructions productively, he has learned that it is possible to express the relationships linguistically and has devised a strategy for doing so.

The words a'u and 'oe both existed in Sipili's repertoire as single word utterances. He used them appropriately to mean "I" and "you" and knew their meanings. The nouns and demonstrative pronouns with which these words appeared in possessive pivot constructions also appeared alone and Sipili knew their meanings. Now when a child produces an utterance he does it for a reason. In the case of the possessive constructions, produced by Sipili, the reason for their being spoken was to convey the idea to a hearer that some object or objects were considered by Sipili to be the property of someone. To convey this idea, three elements had to be expressed: the object, the person, and the relationship between them. To express the object and the person represented no problem since both of these lexemes already existed in Sipili's vocabulary, and he used them semantically correctly as one word utterances in the context of naming. The possessive relationship between a person and an object can be expressed in adult Samoan by the use of a third word (*o* or *a*) which can be glosses as "of", and by word order. So that if an adult Samoan wanted to express the idea that a piece of candy belonged to him, he could say, *'O le lole o a'u* (the candy of me). While Sipili occasionally uses the function word *o* or *a* to express possession, he more often relies simply on word order to be understood. That is, while he sometimes uses a more complex and correct form, he more often uses a simpler and incorrect form which will perform the same linguistic function of indicating a possessive relationship. It seems reasonable to assume that as Sipili matures and as his linguistic ability develops he will gradually drop the incorrect form and begin to use the correct form exclusively. His development will be in the direction of linguistic conformity with the language of adult members of his group. The occasional occurrence of the correct form at the present stage of his development probably represents an experiment or an imitation of specific adult utterances as also may be the case in Sipili's occasional use of the word *le* and *'o*.

Sipili then conveys the concept of possession by speaking the words which mean the possessed and the possessor in a certain order. He has already learned the meanings of the individual words that he uses and he uses them correctly as one word utterances in naming behavior. That is, he has already learned to express two of the three concepts necessary in a linguistic expression of a relationship of possession: the names of the two items involved. Once that had been accomplished, and once Sipili's cognitive development had reached the point where the concept of possession was meaningful to him, what remained to be accomplished was the development of a strategy to linguistically express the possessive relationship between the two items.

This was done by the imposition of a word order on the possessive utterance in which the possessor followed the possessed. It is not surprising that this was the strategy employed by Sipili since this is the same relative word order (with the unstressed function word o or a omitted) that exists in adult Samoan. It does not necessarily follow, however, that the forms used by Sipili are non-productive, telegraphic imitations of adult utterances.

Adult speech is rule governed and productive. At some point in a child's linguistic development his speech too becomes rule governed and productive. It is equally true and obvious that imitation plays some part in the child's acquisition of his language. The problem becomes then how to distinguish between those utterances produced by a child which are merely imitative of adult utterances that he has heard and stored in his memory, and those utterances which are produced by some underlying rule which exists in the child's grammar.

If a construction regularly appears in the child's speech which can be described in the same way that a number of other utterances using different words can be described, and if that construction does not match a construction the child is likely to have heard spoken by an adult, then it has been assumed in the literature that the grammatical rule which describes both the idiosyncratic construction and those which match adult utterances or part of them, is productive for the child. McNeill puts it thus: "It would be completely _ad hoc_ to distinguish the ones that are fractured from the ones that are not. Instead it is more parsimonious to assume that children generate all these sentences according to rules..." (1966:24). In other words it has been assumed that the exception to adult speech proves the rule for the child. Braine (1963) cites examples such as _all gone shoe_, _more taxi_, _bye bye celery_, etc.

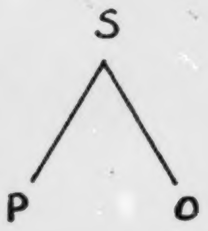
Now all of Sipili's possessive pivot constructions were not correct in terms of adult speech. They all omitted the function word _o_ or _a_. There were some three word utterances which did include _o_ or _a_ but they were a small minority and were probably experimental precursors of the form that Sipili was about to begin using with greater frequency. Further, Sipili made other mistakes with the possessive use of the pronoun _'oe_ when he paired it with _lea_ and _sia_ which are demonstrative pronouns (that) and which in adult speech would be preceded by the word _mea_ (thing) when used in this context. It would seem then that there is ample evidence to assume that the possessive pivot utterances produced by Sipili were formed on the basis of some sort of underlying rule and are not delayed imitations of adult utterances. The other pivots *le*, *ma*, and *'O* were used with such great frequency that it seems unlikely that they and the words with which they appeared were memorized single units. Moreover, the words with which they appeared were often used alone so it is obvious that they were separable units for Sipili. There is some evidence, then, that the pivot constructions produced by Sipili were formed on the basis of productive rules and the data will be so treated here.

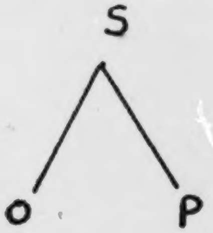
CHAPTER 3

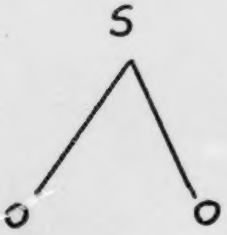
SIPILI GRAMMAR

3.1 Inadequacy of Pivot Grammars

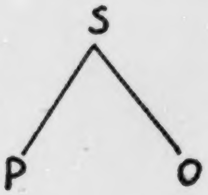
If all we were interested in describing was the distribution of forms, then a grammar might be written for the two word utterances presented in Table I which would be of the kind used by Braine (1963) to describe his data and which he has termed a pivot grammar. Pivot grammars describe the formal relationships of two classes of words: open classes and pivot classes. The open classes are defined as the classes containing large numbers of words which occur less frequently than the individual members of the pivot class. The rules for combining a pivot class word and an open class word in an utterance are rules of order. Pivot class words occur in a fixed position. A pivot grammar defines the word classes as open or pivot and provides rules for concatenation of the classes. Since pivot class words do not seem to appear together, there are only three possible word orders to describe: Utterances in which the pivot occurs in initial position; utterances in which the pivot occurs in final position; and utterances in which the two open class words appear together. Tree structures representing these three types of utterances are:



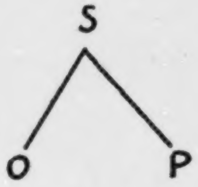




If this pivot grammar model is applied to the utterances in Table I, utterances containing *le*, *'O*, or *me* are described by the tree structure diagram:

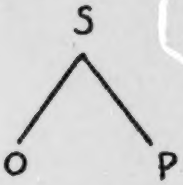


Utterances containing the pivot words *a'u* or *'oe* are described by the tree structure diagram:



Such a model adequately accounts for the word order of the utterances presented in Table I. It assigns words to word classes and describes the order in which those words appear in Sipili's speech.

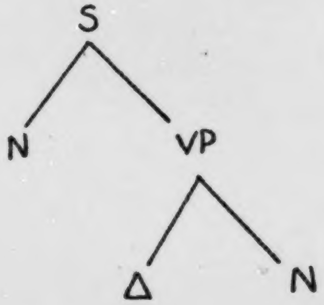
As Bloom (1968:396) has pointed out, however, a pivot grammar provides only for a description of the *surface structure* of the utterances. It provides only for the ordering of the surface constituents and describes nothing of the way in which the constituents are related. The O and P are dominated by the same node S and their relationship is simply one of order. A phrase structure tree diagram



describing the utterances *sasa a'u* (spank me) and *lole a'u* (my candy) assigns the same description to both utterances. It accounts for the form of the utterances but takes no account of the differences in meanings of the two utterances and the very different ways in which the constituents within the utterances are obviously related. A grammar which would adequately describe these two utterances must account not only for the order in which the constituents appear in the surface of the utterance, but must also account for the way in which they are related to each other.

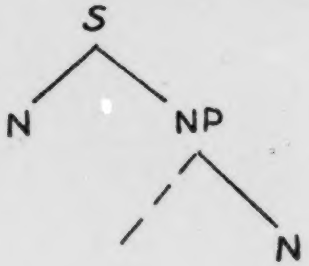
3.2 Bloom's Approach

Bloom (1968) has attempted to resolve the problem by writing hierarchical phrase structure rules for the utterances of the children she studied by which the semantic relations between elements of an utterance are determined by the relations between the nodes in a tree diagram by which the elements are dominated. A subject - object string, for example, would be represented by the complex phrase marker:



(Bloom 1968:144)

The second noun here is dominated by the node VP which places it in an object relationship to the first noun - subject. A possessive relationship is described by the tree diagram:



(Bloom 1968:145)

In this case, the second noun is dominated by the node NP which places it in a possessed relationship to the first noun - possessor.

Note that in the diagram describing the subject - object relationship that the left branch from the VP node does not produce a constituent in the realized sentence. This is necessary because the diagram describes a two word utterance in which the verb does not appear. In the more complex grammars which attempt to describe the stages of each child's linguistic ability, obligatory transformational reduction rules are used to account for the fact that the underlying structures are more complex than the surface structures of the obtained utterances (see Bloom 1968:148). That is to say, the fact that certain constituents do not appear in a child's utterances is believed by Bloom to be a factor of the child's linguistic competence and to be accounted for by a grammar of that competence which includes obligatory reduction rules. The underlying structure is more complex than the sentences themselves.

The specification of underlying structural relationships which are not realized in the surface structure is justified by Bloom on the bases of the obvious semantic intention of the child in producing the utterances and the fact that in addition to producing subject - object utterances, the child also produces subject - verb and verb - object utterances, though no utterance contains all three constituents (1968:261).

Bloom's procedure was to carefully note the linguistic and extralinguistic context of each utterance produced by her subjects in an attempt to assign meaning to that utterance. To the extent that any person can know what meaning another person intends to convey in producing an utterance, Bloom seems to have been reasonably successful. Utterances which are uninterpretable are excluded from the analysis and the arguments presented for a particular interpretation of potentially ambiguous utterances are, for the most part, convincing.

On the basis of the semantic interpretation assigned to each utterance, Bloom was able to assign an hierarchical syntactic description to that utterance. The semantic interpretation of the utterance "Kathryn cheese" (Bloom 1968:92) as a predicate - object relation without expression of an intervening verb form, for example, allows Bloom to describe the form "cheese" as being immediately dominated by the node Verb Phrase, the form "Kathryn" to be immediately dominated by the node Noun Phrase, and these two nodes to be, in turn, dominated by the node Sentence. A tree structure diagram of such an utterance shows how the constituents of the utterance are related hierarchically by indicating the nodes by which they are dominated and the relationship of the nodes to each other. It is a semantic description of the utterance only in the sense that the meaning of the utterance must be understood in order to formally describe the relationships of its constituents. The tree structure diagrams and the grammars presented by Bloom provide syntactic descriptions in that they describe the formal relationships of elements.

3.3 Inadequacy of Bloom's Approach

This kind of analysis, while taking into account the semantic intention of the child to describe the underlying structure of an utterance, ignores that semantic intention in the actual description itself. That is, while intention and semantics determine the description, the description itself is purely formal. It is a grammar which is forced into the mold of a generative grammar of competence rather than performance, and, as such, ignores the intention of the child in producing any one of the utterances which it attempts to describe. It would seem reasonable to assume that if the child has an intention to convey some thought through the use of language, he will do so (at least occasionally) to the best of his ability. He speaks because he wishes to convey his thought to a hearer. To postulate a subject noun phrase, a predicate, and an object noun phrase as part of the underlying structure of the child's competence and then to add a further element in the form of a deletion rule so that these three elements are never realized together may be desirable to form an elegant and parsimonious model of the speech data collected from the child but could hardly be assumed to be a description of the operations applied by the child in producing any utterance.

In writing these kinds of grammars, Bloom is attemting to apply to the data collected on a few visits to a child, the techniques used by generative grammarians to describe their own intuitions concerning the language they speak. The descriptions of language presented by these grammarians are based on their knowledge of their own linguistic ability and not on a small corpus of their speech. Though the data upon which Bloom's grammar are based are numerous, the surface structure they exhibit is not comparable to a linguist's own knowledge of his language. A linguist's description of his language is based on his total knowledge of that language as he speaks it and not on the utterances he may produce in a few randomly selected hours.

In other words, Bloom is attempting to apply the techniques of linguists, who in their own descriptions of language make use of their total introspective knowledge of that language, to the surface structure representations of a few randomly collected utterances. These are two different tasks, and the techniques of one hardly seem applicable to the other.

3.4 A Semantic Approach

Fillmore, in his article on case (1968:1-88), presents a convincing argument for including a description of semantic relationships between verbs and nouns as a part of the description of any sentence. He argues that it is possible to describe the semantic deep structures of sentence and to relate these deep structures to the surface forms of sentences by means of rules. He further states that "...the syntactic deep structure of the type that has been made familiar from the work of Chomsky and his students... is an artificial intermediate level between the empirically discoverable 'semantic deep structure' and the observationally accessible surface structure, a level the properties of which have more to do with the methodological commitments of grammarians than with the nature of human languages" (1968:88).

We believe that Fillmore is correct in stressing the fact that semantics should be not only a consideration in assigning a syntactic description to a sentence but a part of that description itself. That is, some of the elements of the model used to describe any language should be semantic elements. Fillmore (1968:2) argues that "What is needed is a conception of base structure in which case relationships are primitive terms of the theory." The case relationships here are semantic relationships in the basic structure of a sentence between nouns and a verb.

This approach, while applicable to the language of adult speakers of English, is not broad enough to deal with the language spoken by young children, since many of their sentences neither contain nor imply a verb. The model for describing the speech of children presented below, considers additional semantic relationships present in the basic structure of sentences. Though this model is used here to describe the speech of children, it is probably also true that case relationships are not the only kind of semantic relationships necessary to describe the language spoken by adults.

Schlesinger (1968) has viewed child language from the point of view of the semantic relationships expressed, but his model is one which attempts to describe the actual process of the production of particular sentences, and as such, is more a theory of linguistic behavior than it is a theory for grammars that will allow for inter-child and cross-linguistic comparison.

The grammar presented below will consider the semantic relationships expressed in Sipili's speech and will attempt to describe those relationships. It will further present rules for their linguistic realization. The preference for such a grammar over a generative grammar will then be discussed.

3.5 Rules of the Grammar

All of the utterances obtained from Sipili are of two main types. That is, they perform two general semantic functions as complete entities in themselves which are not entirely dependent upon the semantic relationships between their constituents. These general semantic functions may be labeled Naming and Predication.

An utterance which performs the semantic function of predication is one which contains a verb of action. The utterances presented in Table 2 above are all examples of predication. An utterance which performs the semantic function of naming is one which does not contain, in its underlying semantic structure, a notion of action. Naming utterances, in the data from Sipili, may be inserted into the linguistic frames:

'O le mea lea, (*'o le*) _____.*
That thing is (the) ______.

or:

'O le tagata lea __________.
That person is ___________.

Examples of naming utterances are *lole a'u* (my candy), *le ili* (the fan), *ma Fale* (for Fale), *'O Musu*, etc.

We have then a rule which states that any sentence uttered by Sipili must be either a sentence of naming or a sentence of predication. This may be formalized as follows in Rule I:

$$\text{R I} \qquad S \longrightarrow \{\text{Pred, Name}\}$$

i.e., Sentence becomes either predication or naming but not both.

In his discussion of case, Fillmore (1968:23) introduces the concept of modality to account for such things as negation, tense, mood, and aspect. The modality constituent semantically operates on the sentence as a whole, and in that sense it stands 'outside' of the rest of the basic structure of the sentence. The modality (M) constituent is introduced here to

---

*The *'o le* is in parentheses here to indicate that it is necessary in the frame if it does not appear in the utterance to be inserted into the frame.

account for negation and interrogation in Sipili's utterances. Rule I then becomes:

$$\text{R I}^{1} \qquad S \longrightarrow (M) + \{\text{Pred, Name}\}$$

The predication here is similar to what Fillmore (1968:22) terms the 'proposition' of the basic structure of a sentence. The proposition consists of a relationship(s) involving a verb and a noun(s). The noun is associated with the verb in a particular case relationship. Case relationships exhibited in Sipili's speech are agentive, objective, and locative. Following Fillmore (1968:24-25) the cases involved in these relationships are defined as follows:

> "Agentive (A), the case of the typically animate perceived instigator of the action identified by the verb...
> Locative (Loc), the case which identifies the location or spatial orientation of the state or action identified by the verb.
> Objective (O), the semantically most neutral case, the case of anything representable by a noun whose role in the action or state identified by the verb is identified by the semantic interpretation of the verb itself; conceivably the concept should be limited to things which are affected

> by the action or state identified by the verb..."

An utterance of predication, then, contains a verb and a noun which is in a particular case relationship with that verb. This may be formalized as Rule II:

$$\text{R II} \qquad \text{Pred} \longrightarrow \text{V} + \left\{\begin{matrix}\text{A}\\ \text{O}\\ \text{Loc}\end{matrix}\right\}$$

All verbs, however, cannot occur with all cases. The insertion of verbs depends upon the particular array of cases provided by the sentence. This is what Fillmore calls the 'case frame' (1968:27). Verbs such as alú (go), for example, cannot occur in a case frame which contains an object. Rule II thus becomes:

$$\text{R II}^1 \qquad \text{Pred} \longrightarrow \left\{\begin{matrix}\text{V}_1 + \left\{\begin{matrix}\text{A}\\ \text{O}\end{matrix}\right\}\\ \\ \text{V}_2 + \left\{\begin{matrix}\text{A}\\ \text{Loc}\end{matrix}\right\}\end{matrix}\right\}$$

Naming (N) may be simply the labeling of some item or person, or it may express the semantic concepts of possession, benefit, or location or combination of labeling and location, and of possession and location.

$$\text{R III} \qquad \text{N} \longrightarrow \left\{\begin{matrix}\text{Poss}\\ \text{Labl}\\ \text{Ben}\end{matrix}\right\} + (\text{Loc})$$

The modalities (M) of utterances produced by Sipili were of negation and interrogation. This is stated in Rule IV:

R IV $M \longrightarrow (\text{Neg})\ (\text{Int})$

The remaining rules necessary to account for Sipili's speech are rules of lexical selection and order which provide for the surface realization of the semantic concepts expressed in Rules I through IV.

R V $V_1 \longrightarrow F_1$*

R VI $V_2 \longrightarrow F_2$

R VII $A \longrightarrow F_3$

R VIII $O \longrightarrow \left\{\begin{matrix} F_3 \\ F_4 \end{matrix}\right\}$

R IX $\text{Loc} \longrightarrow F_4$

R X $\text{Neg} \longrightarrow \underline{\text{L}\bar{\text{e}}} + S$

R XI $\text{Int} \longrightarrow$ question intonation + S

R XII $\text{Labl} \longrightarrow \left\{\begin{matrix} \underline{\text{'O}} + F_3 \\ \underline{\text{le}} + F_4 \end{matrix}\right\}$

---

* Form Class I

$$\text{R XIII} \qquad \text{Ben} \longrightarrow (F_4) + \underline{\text{ma}} + F_3$$

$$\text{R XIV} \qquad \text{loc} \longrightarrow \begin{Bmatrix} F_3 \\ F_4 \end{Bmatrix} + \underline{\text{lea}}$$

$$\text{R XV} \qquad \text{Poss} \longrightarrow (F_4 (\underline{\text{o}}) + F_3\text{**}$$

An additional rule is necessary to provide for the proper form of the surface sentences which contain possession or benefit plus a locative. In their present form the rules would generate such sentences as lole o a'u lole lea (my candy candy there). Such a rule would state that in any utterance which consists of more than one word from Form Class 4, the second word is deleted.

3.6 The Grammar

We have, then, a grammar which accounts for most of Sipili's utterances:

$$S \longrightarrow (M) + \{\text{Pred, Name}\}$$

$$\text{Pred} \longrightarrow \begin{Bmatrix} V_1 + \begin{Bmatrix} A \\ O \end{Bmatrix} \\ V_2 + \begin{Bmatrix} A \\ \text{Loc} \end{Bmatrix} \end{Bmatrix}$$

**Interlocking parentheses indicate that one or the other or both symbols may be selected, but at least one must be selected.

$$\text{N} \longrightarrow \left\{\begin{matrix}\text{Poss}\\ \text{Labl}\\ \text{Ben}\end{matrix}\right\} + (\text{loc})$$

$$\text{M} \longrightarrow (\text{Neg})\ (\text{Int})$$

$$\text{V}_1 \longrightarrow \text{F}_1$$

$$\text{V}_2 \longrightarrow \text{F}_2$$

$$\text{A} \longrightarrow \text{F}_3$$

$$\text{O} \longrightarrow \left\{\begin{matrix}\text{F}_3\\ \text{F}_4\end{matrix}\right\}$$

$$\text{Loc} \longrightarrow \text{F}_4$$

$$\text{Neg} \longrightarrow \underline{\text{L}\bar{\text{e}}} + \text{S}$$

$$\text{Int} \longrightarrow \text{Question intonation} + \text{S}$$

$$\text{Labl} \longrightarrow \left\{\begin{matrix}\underline{\text{'o}} + \text{F}_3\\ \underline{\text{le}} + \text{F}_4\end{matrix}\right\}$$

$$\text{Ben} \longrightarrow (\text{F}_4) + \underline{\text{ma}} + \text{F}_3$$

$$\text{loc} \longrightarrow \left\{\begin{matrix}\text{F}_3\\ \text{F}_4\end{matrix}\right\} + \underline{\text{lea}}$$

$$\text{Poss} \longrightarrow (\text{F}_4\,\text{ʔ}\underline{\text{o}}) + \text{F}_3$$

$$\text{F}_4{}^1 + \text{F}_4{}^2 \longrightarrow \text{F}_4^1$$

3.7 Form Classes

The form classes from which the rules select lexical items are the following:

Form Class I: Transitive verbs, i.e., verbs that may occur in the case frame _____ O.

fia	(want)
fai	(do)
aumai	(bring)
fa'asusu	(nurse)
'ai	(eat)
sasa	(spank)

Form Class II: Intransitive verbs, i.e., verbs that may occur in the case frame _____ Loc but not in the case frame _____ O.

alu	(go)
ofi	(go into or fit)

Form Class III: Proper nouns and pronouns. These nouns have the semantic features of + human, + agent, + object, + label, + benefited, + located, and + possessor.

a'u	(I)
'oe	(you)
Musu	(a name)
Fale	(a name)
Fai	(a name)
*teine**	(girl)
etc.	

---

* *Teine* can be used as either a proper noun or an human noun which is not a name in adult Samoan and therefore belongs in a separate form class. Since it is only used once by Sipili, however, it is included in this form class.

Form Class IV: Common nouns. These nouns have the semantic features of - human, - agent, + object, + label, + directional, + benefiting, + locating, and + possessed.

fale	(house)
lole	(candy)
mea	(thing)
polo	(ball)
vai	(water)
a'oga	(school)
etc.	

3.8 Utterances Not Accounted For by the Grammar

The grammar presented here is a grammar of production as opposed to a grammar of comprehension in that it attempts to account only for the utterances spoken by Sipili and not those utterances produced by others which Sipili appears to be able to understand. It is probably true that adults are able to understand grammatical constructions that do not appear in their own speech and it is certainly true for children. It is difficult to write grammars that would account for the ability of an individual to understand utterances that he does not produce, since one cannot be sure how the input utterance is understood by the hearer nor what features of the utterance the hearer is attending to. While linguists can depend upon their own ability to make judgements concerning the grammaticality of sentences, no one has as yet discovered a method to elicit judgements of grammaticality from children, and as a result no grammars that would include comprehension have been attempted for children.

Since the grammar for Sipili does not include a description of his ability to comprehend, it can make no statement concerning his production of utterances which contain the word ma when it is used in the sense of (and). These utterances are produced by Sipili in response to an utterance produced by his interlocutor and relate the word that occurs with ma to the previous utterance. In other words, ma functions to place the word with which it occurs in some sort of semantic relation with a sentence that Sipili has heard and in some way understood. A description of the semantic relationships underlying the use of ma (and) would require a description of Sipili's ability to comprehend utterances, and since such a description is not attempted here, the use of ma (and) is not accounted for by the grammar of production. It is interesting to note, however, that when ma (and) is used by Sipili it is either to relate the noun with which it occurs to a previous response to a question, or to the agent or object of a sentence spoken by someone else. That is, it is related to labeling which Sipili is capable of in his production of utterances or it is related to an agent or object semantic relationship which Sipili is also capable of in his production of utterances.

Other utterances produced by Sipili which are unaccounted for by the grammar are those utterances for which a semantic interpretation is not clear. These include *Lalafai ea* and *Afatea ea.* Both of these utterances were spoken with a question intonation, and in adult Samoan *ea* is a question marker. Possibly Sipili was asking whether the label he had given the individual involved was the correct one; but this is not clear.

The grammar also does not account for Sipili's use of the vocative which occurred twice in *Mama*. *Pai*. and *Iosua*. *Polo a a'u*; and the use of the possessive pronouns *la'u* (my) and *matou* (our) in initial position in the utterances *la'u lole lea* (my candy there) and matou mea (our thing), and *tapale 'oe e* and *tapale ma 'oe e* (hit you), and the utterances *matou tamaiti* (we children and *tamaiti matua* (older children). One factor in the decision to not include a description of these utterances in the grammar is their rare occurrence. Another, in the case of the vocatives, is the difficulty in deciding whether they constituted one or two utterances.

The grammar, in addition to not accounting for all the utterances produced by Sipili, also generates some sentences which were not in fact produced by Sipili during the periods in which the data were collected. Examples of such utterances are:

Sasa 'oe	(spanked you)
Lē 'ai Musu	(Musu (will) not eat)
Lole o Va	(Va's candy)

etc.

These utterances, however, represent no semantic relationships that do not appear elsewhere in Sipili's speech. That they do not occur in the data is more likely a factor of the limited amount of utterances collected and the situation under which they were collected than it is a factor of Sipili's inability to produce them.

3.9 Semantic Relationships in Sipili's Speech

The semantic relationships and functions expressed in Sipili's speech and accounted for in the grammar, then, are verb + agent, verb + object, verb + locative, possession, labeling, benefit, and location. Semantic modalities which affect the entire utterance with which they occur are negation and interrogation.

It is interesting to note that except for four instances, Sipili's utterances express only one semantic relationship each (and sometimes a modality affecting the semantic interpretation of the entire utterance).

The four exceptions are:

lole 'oe lea	(your candy there)
ta'vale ai lea?	(whose car (is) that?)
la'u lole lea	(my candy there)
le isu o a'u	(my nose)

All of these exceptions combine a possessive relationship with something else which is either a locative or a label.

There would seem to be some sort of limitation on Sipili's cognitive or linguistic ability to produce utterances which have as part of their underlying structure more than one semantic relationship. He uses a transitive verb with either its object, as in lē 'ai lole (not eat candy) or its agent, as in lē ai 'oe (you not eat) but never with both its agent and object. In other words, if Sipili uses a transitive verb, his linguistic competence permits him to select either its agent or object as part of the underlying semantic structure of the sentence but not both. As Sipili's linguistic ability approaches more closely that of an adult speaker of Samoan, he will, undoubtedly, be able to produce utterances which have as part of their underlying semantic structure both an agent and an object. At his present stage of development there may be either an agent or an object underlying his utterance but not both. Thus his development will be such that an additional semantic relationship may occur in the underlying structure of the sentence and will not be the unlearning of a deletion rule as Bloom would have it.

3.10 Relationship of a Semantic Model of Grammar to Language Acquisition

The model for a grammar presented here is one which postulates, as its constituents, rules for the representation of semantic relationships and rules for the linguistic expression of those relationships. It is not a model which claims to represent the psychological reality of a speaker's knowledge of his language. At the same time, its aim is not simply to provide a formal description of a corpus of linguistic data. Rather, it seeks to provide the sort of grammar which will describe a body of linguistic data in such a way that it also forms a foundation for the investigation of the process of the acquisition of that language. The consideration of semantic relationships as part of the basic structure of sentences does provide such a foundation.

3.10.1 The Acquisition of Semantic Relationship Rules

Schlesinger (1968:12-13) points out that one of the central problems in research on language learning has been how to account for the fact that the child learns the underlying P-markers which have been posited by generative grammar. Works on the acquisition of language have been criticized for being unable to explain how it is possible that a child learns the underlying structure of sentences which, by the definition given it by generative grammarians, is never exhibited in the surface structure of the language they hear. (Bever, Fodor and Wek~~a~~sel 1965). It has also been stated by generative grammarians that learning theory is, in principle, incapable of accounting for the learning of these underlying P-markers (Katz and Postal 1964). This kind of thinking has led McNeill (1968) to theorize that, since the P-markers cannot be learned, they must be innate, and to propose a theory of language acquisition based on that premise.

Now if it is indeed true that in a framework of generative grammar, the underlying structure cannot be discovered by an analysis of the surface structure, one of two conclusions must follow. Either the child's linguistic ability is innate or a framework of generative grammar is inadequate for discovering how a child learns to speak. Mc Neill assumes the former. I assume the latter.

In the grammar presented here, P-markers need neither be innate nor discoverable only through the intuition of linguists because they do not exist. The role that P-markers play in a generative grammar is played here by semantic relationships; semantic relationships which are both learnable by the child and empirically observable by the linguist to the extent that he can understand the meaning implied in the child's utterance.

The semantic relationships which underly sentences need not be entirely innate since they represent observable or inductible aspects of the environment. Any normal human being, who is not linguistically incapacitated in some biological way, learns to speak the language of`his group. That is, he learns to express aspects and relationships of his environment in the way that his group expresses them. Any human being with normal cognitive equipment could learn to give his environment the same semantic interpretation that any linguistic community does if he were reared in that community or,in some other way became a fluent speaker of that language of that community. The semantic structure underlying the language of any speaker is the result of the interaction between his human cognitive capacity for learning and his linguistic and non-linguistic environment. To the extent that any human being could learn to acquire the underlying semantic structure of any language of the world, the elements and relationships of those semantic structures are potentially universal. The extent to which the underlying semantic structure of all the languages of the world is the same is an empirical question which must be empirically investigated.

Now neither the nature of the cognitive interpretation of reality nor the mechanism for acquiring such an interpretation is claimed to be understood here. What is claimed here is that a human cognitive interpretation of reality is a necessary cause of human speech and that an examination of this necessary cause is essential if human speech and its acquisition are to be understood. A model of a language which includes a description of the semantic relationships expressed by its speakers, semantic relationships presumably based on the speakers' cognitive interpretation of reality, would seem to be a step in the right direction.

3.10.2 The Acquisition of Realization Rules

Semantic relationships, based on a cognitive interpretation of reality, then, comprise the basic structure underlying an utterance and are postulated here as basic elements of the model of a speakers language. For the child to become aware of the basic semantic relationships expressed by speakers of the language he is learning is, however, not sufficient for his acquisition of that language. Nor is the description of the semantic relationships he has learned an adequate description of the child's linguistic ability. A child must not only learn to view his environment in terms of the same semantic relationships as do other speakers of the language he is learning, but also to learn the correspondences between these semantic relationships and the surface form of utterances which express them. He must learn the language's strategy for expressing them. He must learn the language's strategy for expressing meaning. That is, he must acquire the ability to utilize the lexical, grammatical, and syntactical means of the language for expressing underlying semantic relationships. It is suggested here that such acquisition takes place as the result of associative learning and is potentially explainable in terms of associative learning theory. If we consider, for example, Sipili's two word utterances such as lole a'u (my candy) and pai Tafale (Tafale's pie) which express the semantic relationship of possession by relating the concepts of a thing possessed and a possessor in a certain word order, it seems obvious that Sipili has learned to

The semantic relationships represent the knowledge of the child that discernible and linguistically named entities and actions exist in the world, and that these entities may enter into certain knowable and linguistically expressable relationships. The knowledge which the semantic relationships represent is in some sense innate, in some sense acquired, and in some sense linguistically influenced.

It is innate in the sense that a child is born with, or acquires as a result of physiological maturation, the capacity to learn from and about his external environment. A child is born with the capacity to learn to distinguish entities in his environment and to learn that these entities may enter into relationships.

The knowledge is acquired in the sense that the child's capabilities become realized through contact with his environment, and it is linguistically influenced in the sense that part of the environment is a linguistic environment. The child learns to discern and distinguish objects, persons, states, and actions through experience with those persons, objects, states and actions in his environment. That, at least, part of this knowledge is not influenced by linguistic environment is shown by the fact that deaf children, even before they are taught any means of communication produce these utterances by hearing this same word order of thing possessed + possessor used by speakers of Samoan in contexts which Sipili has recognized as ones in which a relationship of possession obtained between the concepts named by the speaker. He has tried this same strategy in attempts to express a semantic relationship of possession, found that he is understood when he uses it, and has thus acquired a strategy for linguistically expressing this particular semantic relationship.

3.11 Summary

Sipili, then, has acquired certain semantic relationships and rules which linguistically express these relationships. These relationships include relationships of:

agent + action
object + action
location + action
possession
negation
direction
interrogation
benefit
location

Semantics also underlies simple naming behavior and provides for the marking of noun classes such as human and non-human by the markers _'o_ and _le_.

at all, are able to identify them and react to them. Part of this knowledge, however, is influenced by exposure to language. The very knowledge that these learned concepts can be expressed linguistically would never be acquired if the child were not exposed to language. Further, some of the concepts themselves are formed on the basis of language.

While a child would be able to distinguish one tree from another without ever being exposed to language, he would not independently invent the language specific taxonomic classification of all the trees in his environment known by adult speakers of his language. He probably would never form the concept that shape of frond was important in distinguishing one coconut palm from another to the extent that individual trees exhibiting one kind of frond belong to a conceptualized class of trees which is separate from another conceptualized class of trees exhibiting some other kind of frond.

The realization rules whereby knowledge and linguistic intent find linguistic expression are also learned through the interplay of innate capability, experience, and language. The child who learns to speak a language has the innate ability to learn that objects or actions in his environment may be linguistically expressed and differentiated by the utterance of certain sounds. He learns to associate the concept with the sound by being exposed to situations in which the entity in the environment is paired with a recognizable and reproducable sound by speakers of the language he is learning to speak. He learns names for objects and actions in his environment. He further learns that the combining in certain ways of the words representing the concepts expresses recognizable relationships between those concepts, that the relationships themselves may be expressed by words, and that names of entities in the world which are classed together on linguistic or non-linguistic grounds or both may be marked as a class linguistically. He learns names for objects and actions; he learns word order and function words; and he learns to form and mark word classes.

The child learns first to simply name aspects of his environment, he then learns to express single relationships between these aspects and finally to express more than one of these relationships in a single utterance. Each step in this process of acquisition builds, of course, upon the knowledge already acquired by the child.

Once a child has learned to name items and actions in his environment he has already learned to linguistically express two of the constituents underlying an utterance which expresses a relationship between those concepts. All he need learn further is that such a relationship can be expressed linguistically and that that is done, for example, by ordering the words realizing the two concepts. When the child learns to express more than one relationship in a single utterance he simply learns to combine the two and a new realization rule which may be simply a rule which orders the realization rules for the combined semantic relationships in such a manner than the word for one concept which is a constituent in relationships with words for two other concepts need only be realized once.

CHAPTER 4

TOFI GRAMMAR

Tofi was a young Samoan girl from whom data was collected on a number of occasions. Only the first visit with her will be discussed here however.

4.1 Tofi's Household and Linguistic Interaction Network

Tofi was a member of the household of her mother's sister and her family. She had been a member of this household since the age of approximately six months. The household included her mother's sister, age 46; her mother's sister's husband, age 49; her mother's sister's son, age 13; her mother's sister's daughters, ages 15, 10, 7, and 3; and for a short time a female relative of the family, age 14, and a male relative of the family, age 9. Tofi was regarded as a member of the family and was treated as a daughter by the adults and as a sister by the children. The researcher and his wife were also members of this household during their stay in Samoa.

The mother of the household and the three oldest daughters were Tofi's primary caretakers and the youngest daughter was her constant companion. A female cousin, age 4,was also often a part of Tofi's play group. Other individuals with whom Tofi occasionally interacted included neighboring children ranging in age from 2 years to 9 years, and adults who visited the household.

Tofi's range of play was restricted to the household area and the household areas of immediate neighbors. On rare occasions she would accompany an adult or older child of the household on a visit to her aunt some six households away. Her range excluded most of the village and when taken by the researcher to the opposite end of the village she was lost, bewildered, and frightened. The limited interaction network to which she was exposed, however, did not differ in any identifiable linguistic way from one which would have included the entire village.

4.2 The Setting in which the Data Was Collected

At the time of the first recorded visit with her, Tofi was two years and two months old. The visit actually consisted of three visits which took place within a period of one week. They took place in the guest house of the household which was located some 15 yards from the main house and which was the residence of the researcher and his wife. Present at various times during the visit were the female siblings of the house and the researcher and his wife. Tofi was at ease during these sessions, and contrary to the case with Sipili, most of her utterances were spontaneous rather than answers to questions. Much of the time during the visits were spent playing with a new doll and many of the utterances concern this activity.

There are a total of 625 semantically interpretable recorded utterances. The mean utterance length is approximately 1.6 morphemes per utterance which is comparable to the mean utterance length of 1.52 in the data from Sipili. The speech sample from Tofi however is not restricted in scope as the one from Sipili is, and therefore the mean utterance length of the sample is probably closer to the mean utterance length of her total speech output at this particular stage than is the one for Sipili.

4.3 Rules of the Grammar

Tofi's linguistic output will be analyzed here, as was Sipili's, in an attempt to discover the semantic relationships it expresses and in an attempt to discover the linguistic strategies employed by Tofi to realize those semantic relationships. Since certain semantic relationships are expressed in Tofi's speech which were not expressed in Sipili's, they require definition here.

Though the ratio of naming utterances to those which express a verb and therefore constitute a predication is much smaller in the speech sample from Tofi, as indicated above, this is due at least in part to the sociolinguistic setting in which the sample was collected. Nevertheless, a few utterances which are clearly instances of naming do exist in the data obtained from Tofi and must be accounted for. In the model for Tofi's speech then, we have as an initial statement the rule that a sentence is either an instance of predication or naming, and that the sentence may be expressed in a certain modality. This is formalized as Rule I.

$$\text{R I:} \qquad S \longrightarrow (M) + \begin{Bmatrix} N \\ \text{Pred} \end{Bmatrix}$$

Rule I for Tofi's speech is the same as Rule I for Sipili's speech. It is in the definition of the elements of the rules for the different sets of data that the two models differ. As will be seen from the explication of these rules, Tofi expresses more kinds of semantic relationships than did Sipili. Her speech, in addition to having a slightly longer mean utterance length, is more complex.

Rule II for Sipili postulated two different classes of verbs which could be in semantic relationships that are essentially different. V_1 in the rules for Sipili represented an action which was expressed by the selection of one of the members of Form Class I which are, in turn, transitive verbs which may occur in the case frame _____ A + O. In other words, such verbs may enter into an expressed semantic relationship with an agent and an object. Tofi's speech also exhibits verbs which may enter into such semantic relationships, and they are again labeled here as V_1. Examples of such verbs in Tofi's speech are:

Ti'eti'e	(ride)
aumai or *mai*	(give)
'ai	(eat)

V_2 for Sipili represented an action which was expressed by the selection of one of the members of Form Class 2 which are intransitive verbs which *may not* enter into a semantic relationship with an expressed object. They may occur in the case frame _____ + A, but not in the case frame _____ + A + O. Examples of such verbs exhibited in Tofi's speech are:

nofo	(sit)
savali	(walk)
moe	(sleep)

A third type of verb occurs in Tofi's speech which did not occur in Sipili's. This kind of verb may enter into semantic relationships with an expressible object but not with an agent. Such verbs might be labeled verbs of accident since they imply no agent. These verbs here are symbolized as V_3 and occur in the case frame _____ + O. Only one such verb occurred in Tofi's speech, but it was used productively and with great frequency. The verb is pau (fall).

There is a fourth type of verb which is realized by only one member. This verb, like pau, occurs relatively frequently and is used productively. The verb is fia (want) and such a verb will be labeled a verb of desire and symbolized as V_4 here. Now V_4 may occur in semantic relationships with both agents and objects. It differs from V_1 in that it may occur in an utterance with another verb of the V_1, V_2, or V_3 type, while a V_1 may not. Another verb need not necessarily occur in an utterance which contains a V_4 however. The distinguishing attribute represented by V_4 is that it represents a state of the speaker or the expressed agent. If V_4 occurs with another verb, then the state represented is identified by the combined semantic interpretations of the two verbs and consequently there are not two states or a state and an action underlying the utterance, but only one state which is represented by two lexical items in the utterance. This single state may occur with an agent which is in the state described by V_4 and with an object which is the thing desired. When a V_4 occurs in an utterance in which no other verb occurs, then, it may occur in the case frame _____ A + O. When a V_4 occurs in an utterance which does contain another verb however, the case frame in which it may occur is determined by the V_1, V_2, or V_3 with which it occurs. When V_4 occurs with V_2, for example, it may occur in the case frame appropriate to V_2; that is, in the case frame _____ + A but not in the case frame _____ + O.

For these reasons, _fia_ could be viewed as having two different semantic interpretations and as entering our model at different places. _Fia_ could be viewed on the one hand as a verb meaning "want to possess", which can appear in the case frame _____ + A + O. A second _fia_ could be viewed as the expression of a modality which affects the semantic interpretation of the entire utterance with which it occurs; a modality which changes the entire utterance from one in which some state, described by the action and the nouns which enter into case relationships with it, is expressed.

Fia on the other hand can be viewed simply as a verb meaning "want" which may or may not appear in conjunction with other verbs. At first glance it would appear that it would be more economical to consider fia as having only one semantic interpretation and as being represented by a single element in the model. However this is not the case, for the model which would result would require more rules for relating fia to the other verbs than would be the case if fia were represented by two elements in the model. In other words, if economy in the model is to be the criterion upon which our choice is to be based, we must choose between fewer elements and more rules or fewer rules and more elements. There is no argument based on economy of explanation, then, for choosing to represent fia as one element in the model rather than two.

Now the concept of modality was defined above as standing "outside" of the basic structure of the sentence in the sense that it influences the semantic interpretation of the sentence as a whole rather than simply acting as an element which enters into a semantic relationship with the verb alone. In the data from Sipili, the modalities which occurred were of negation and interrogation. It would seem that an element of an utterance which has the effect of indicating that the utterance with which it occurs is a desired state or action, is an element which expresses the modality of that utterance. Fia here, then, will be considered as a verb represented by V_4, and as a modality.

We have, then, as expression of predications in Tofi's speech four types of verbs which may enter into case semantic relationships with the other elements of the utterances in which they occur. The utterances themselves may be expressed in specific modalities.

The case relationships into which other elements of the basic structure of the utterances may enter with the verb are the relationships of agent, object, location, or benefit. These were defined above for the analysis of Sipili's speech, but they will be presented here again, elaborated and further discussed.

The agentive case (A) is the case of the typically animate perceived instigator of the action identified by the verb or (in the case of V_4) the animate being perceived as desiring the state identified by the verb.

The objective case (O) is "the semantically most neutral case ... things which are affected by the action ... of the verb." (Fillmore 1968:25).

The locative case (Loc) is "the case which identifies the location or spatial orientation of the state or action identified by the verb" (Fillmore 1968:25).

The benefactive case (Ben) is the case of the being benefited from the action described by the verb which is not also the agent of the verb.

The modalities in which Tofi's utterances may be expressed are the modalities of interrogation, negation, desire (i.e., *fin*, discussed above), intensity, and manner.

The modality of intensity is expressed in the surface structure by the lexeme *lava* which may be translated as "very much" or "extremely". The modality of manner is expressed in the surface structure by *ponā* which may be translated as "like this".

We have then Rule II which indicates the kinds of predication which occur in Tofi's speech:

$$\text{R II} \qquad \text{Pred} \longrightarrow \left(\begin{array}{l} V_1 + (O) + \left(\begin{array}{l} A \\ \text{Loc} \\ \text{Ben} \end{array} \right) \\ V_2 + (A) + (\text{Loc}) \\ V_3 + O + (\text{Loc}) \\ V_4 + O + A \end{array} \right)$$

And Rule III which indicates the modalities in which Tofi's utterances may occur:

$$\text{R III} \qquad \text{M} \longrightarrow \left(\begin{array}{l} \text{Neg} \\ \text{Int} \\ \text{Manner} \\ \text{Desire (+ Intensity)} \end{array} \right)$$

Rule II states that a V_1 (i.e., a transitive verb) may occur with either an object, an agent, a location, or a benefit; and that any combination of object plus agent, location, or benefit may occur. Although it is probably true that these elements are unordered in the basic semantic structure of any sentence, they are ordered here. The ordering at this position in the model is simply a formal device, introduced at this point for reasons of economy; that is, to avoid the necessity of introducing at some other position additional rules which would serve only to order the elements generated by the model. Rule I above, which serves to place an utterance functioning either as naming or predication in a specific optional modality, is not ordered. All of the statements of Rule II, and of the rules which follow, are ordered however.

Rule II further states that a V_2 (i.e., an intransitive verb) may occur with either an agent or a location or with both; that V_3 (i.e., a verb of accident) may occur with either an object or an object plus a location; and that a V_4 (i.e., a verb of desire) may occur with an agent and an object.

Examples in Tofi's speech of a V_1 occurring with an agent are*:

---

* All of Tofi's utterances, classified according to the semantic relationships they express, are presented in Appendix A.

ave Siaoloau	(Siaoloau took)
ta'eti'e teine	(girl took)

Examples of V_1 occurring with an object are:

ese lima	(move hand)
fo'e lole	(unwrap candy)

Examples of V_1 occurring with a location are:

tu'u lalo	(put down)
ave ese	(take elsewhere)

An example of V_1 occurring with an agent and an object (in the modality of desire) is:

fia 'ai lole pepe	(the baby wants to eat candy)

Examples of a V_1 occurring with an object plus a location are:

mai pepe lea	(bring baby there)
mai mea lea	(bring thing there)

An example of a V_1 occurring with an object and a person benefited is:

mai lole pepe	(bring candy for the baby)

Now note that the possible type of utterance generated by the grammar, V_1 + benefactive does not appear in the data from Tofi. The question is whether this is a type of utterance which is not represented in the data simply because not enough data in enough situations were collected, or whether it is a type of utterance which Tofi would never have said at this linguistic stage in her life. This raises the further question of whether the grammar should account only for the data collected during a visit with the child and should include all the detailed restrictions that such a limitation would impose or whether the grammar should attempt to describe regularities and to maintain a reasonable economy in providing for detailed restrictions; so long as that economy does not generate utterances which are grossly different from those recorded in the data or utterances which would require some new and different rule to explain them.

The latter course, that of attempting to explain regularities while maintaining some reasonable economy, has been the one chosen here. This brings us back to the first question, and unfortunately the answer to this question must be an intuitive one in the absence of the possibility of collecting more data or utilizing such procedures as elicited imitations to resolve it.

Examples of a V_2 occurring with an agent are:

moe pepe	(baby sleeps)
savali pepe	(baby walks)

An example of a V_2 occurring with a locative is:

alu lea	(go there)

An example of a V_2 occurring with both an agent and a location is:

alu Usu lea	(Usu goes there)

Examples of a V_3 occurring with an object are:

pa'ū mea	(thing fell)
pa'ū pepe	(baby fell)

Examples of a V_3 occurring with an object and a location are:

pa'ū pepe lalo	(baby fell down)
pa'ū pepe o sami*	(baby fell in sea)

An example of a V_4 occurring with an object and an agent is:

fia ofu pepe	(baby wants clothes)

We have, then, as elements included in the rule which describes the different forms a predication may take, four kinds of verbs as well as nouns which may enter into agentive, objective, locative, or benefactive relationships with those verbs.

Now it may be reasonably argued that an agentive relationship with a V_1 is not semantically the same as an agentive relationship with a V_2 verb; that an objective relationship with a V_1 verb is not the same as an objective relationship with a V_3 verb; that neither an objective nor an agentive relationship with a V_4 verb is semantically the same as the objective or agentive relationship with any other verb; and that the semantic interpretation of a locative or benefactive relationship varies with the type of verb appearing in that relationship.

---

*The o is not correct here. The correct preposition in adult Samoan is I.

The agent of a V_2 (intransitive verb), for example, is somehow semantically different from the agent of a V_1 verb (transitive verb) in that the agent of a V_2 verb is affected by the action identified by the verb in a way that the agent of a V_1 verb is not. The agent of a V_1 does something to something other than itself and is not directly affected by the action described by the verb. The agent of a V_2 verb, however, does not do something to something other than itself. Rather, the being most directly affected by the action described by the verb is the initiator of that action, the agent. In this sense the initiator of an intransitive verb is both the agent and the object of the verb. The same kinds of arguments can be made concerning the other relationships mentioned in the preceding paragraph. Moreover, it can be argued that not all negation is semantically the same, nor all interrogation. All this is probably true.

However, what has been undertaken here is not an attempt to describe all semantic relationships knowable to a normal human being; but to deal with the minimum semantic relationships which must be known by a child to produce the utterances he does, and to deal with the effect of these semantic relationships on the form of the utterances produced.

Rule III accounts for the modalities of negation, interrogation, desire, manner, and intensity in which Tofi's utterances could be expressed.

Only one example of the modality occurs in the recorded data:

aua *fa'ali'i*	(don't be headstrong)

Based on non-recorded observations made around this same time, however, the use of *aua* in this manner was productive for Tofi and was used with a greater relative frequency than its single appearance in this body of data would indicate.

Examples of interrogation are:

Fea *Punefu*?	(Where (is) Punefu?)
Fea *pepe*?	(Where (is) baby?)

Examples of the expression of the modality of desire are:

fia *pa'u* *pepe*	(baby wants to fall)
fia *moe*	(want to sleep)

An example of the expression of the modality of manner is:

fi vae *penā**   (cross legs like this)

An example of the expression of the modalities of intensity and desire is:

fia moe lava   (want to sleep very much)

There are few instances of non-predicating, naming behavior in the data from Tofi. Simple naming does not play the major role for Tofi in this stage of her linguistic development that it did in the stage of linguistic development described for Sipili.

Three types of naming behavior were produced by Tofi: Naming which simply labeled some items or person she wished to identify; naming which indicated a possessive relationship between the items in the utterance; and naming which indicated the location of the item or person identified in the utterance.

We have then Rule IV which states that an utterance of naming may serve to indicate possession, to label something, or to label something and indicate its location.

$$\text{R IV} \qquad \text{N} \longrightarrow \left\{\begin{array}{l}\text{Poss}\\ \text{Labl} + (\text{Loc})\end{array}\right\}$$

Examples of naming which indicate a possession relationship are:

---

* This is not correct adult Samoan in that *fi* for Tofi represents *fātai* in adult Samoan.

pepe 'oe	(your baby)
'O mata pepe	(baby's eyes)

An example of labeling is:

'O pepe	(baby)

This is the only example of simple labeling that occurred in the recorded data from Tofi at this stage. It occurred as a response to Tofi's sister's statement that the doll's name was Pili. Tofi responded with the one word sentence *Sē*, which is a word used primarily by young children and which indicates their displeasure and negative feelings about something that has been said or done. In this sense it is a negative, but it is not a syntactic negative device used by Tofi to negate some utterance she herself then produces.

Immediately following the one word utterance *sē*, Tofi said *'O pepe*, indicating that the doll's name was *Pepe* rather than *Pili*. Both *sē* and labeling were used more frequently by Tofi at this time of her life than the data from the recorded interview would indicate.

Examples of labeling plus location are:

Keith lea	(Keith there)
Fea Punefu?	(Where Punefu?)

Fea Punefu? is an example of labeling plus location which occurs in the modality of interrogation.

Rule I through Rule IV above are rules which state and describe the semantic relationships which are exhibited in Tofi's speech. They may be considered to be rules which describe the basic semantic structures underlying utterances produced by Tofi. The rules which follow below are rules which provide for lexical selection and for ordering. They may be considered to be *realization* rules which provide for the linguistic realization of the underlying semantic structures.

The realization rules indicate from which form classes individual lexical items may be selected and the order in which those lexical items may appear. The form classes themselves are presented later. In cases where a single lexical item constitutes a form class in itself, that lexical item appears in the rules rather than as a symbol indicating the form class of which it is the role member.

Rules V through XII provide for the selection of lexical items which represent the elements occurring in the rule for the expression of predication.

R V $V_1 \longrightarrow F_1$

R VI $V_2 \longrightarrow F_2$

R VII $V_3 \longrightarrow$ *Pa'ū*

R VIII $V_4 \longrightarrow$ *Fia*

$$\text{R IX} \qquad A \longrightarrow F_3$$

$$\text{R X} \qquad O \longrightarrow \begin{Bmatrix} F_3 \\ F_4 \end{Bmatrix}$$

$$\text{R XI} \qquad \text{Loc} \longrightarrow \begin{Bmatrix} F_4 \\ \underline{\text{lalo}} \\ \underline{\text{loa}} \end{Bmatrix}$$

$$\text{R XII} \qquad \text{Ben} \longrightarrow F_3$$

Rules XIII and XIV provide for the selection and ordering of lexical items which represent the elements occurring in the rule for naming.

$$\text{R XIII} \qquad \text{Poss} \longrightarrow \begin{Bmatrix} F_3 \\ F_4 \end{Bmatrix} + F_3$$

$$\text{R XIV} \qquad \text{Labl} \longrightarrow \underline{\text{'o}} + F_3$$

Rules XV through XIX provide for the selection and ordering of lexical items which express the modalities in which sentences may occur. Ideally all of these rules should include to the right of the arrow the element S (sentence). Modalities affect the semantics of the entire sentence, and the sentence may include other modalities. Since not all types of sentences produced by Tofi are produced in all the possible modalities, the rules here must be somewhat restrictive. The rule of thumb used here is that if the lexical item expressing the modality occurs with only one other single item in any of the utterances in which it occurs, then the symbol S will not be used, but will be replaced with some other symbol which represents the kind of item with which the modality occurs.

R XV Neg ⟶ *aua* + Verb

R XVI Int ⟶ *fea* + labl

R XVII Manner ⟶ S + *penā*

R XVIII Desire ⟶ *fia* + S

R XIX Intensity ⟶ S + *lava*

4.4 Form Classes

Form class 1 includes all the transitive verbs occurring in Tofi's utterances. Verbs of form class 1 may appear in the case frame _____ + O + A.

F_1:

aumai or *mai*	(bring)
tia'i	(get rid of)
ese	(move away)
tu'u	(put down)
'avatu	(give)
va'ai	(look at)
tu'itu'i	(knock or hit)

ta'ita'i	(hold)*
gau	(sprain or strain)
fo'e	(unwrap)
si'isi'i	(hold on lap)
ave	(take)
ti'eti'e	(ride)
fa'atali	(wait)
fa'apea	(do like this)
malo	(win a contest)
'ai	(eat)
fi	(cross or fold)
lifo	(set down)
fai	(do)

Form class 2 includes all the intransitive verbs appearing in Tofi's utterances. Verbs of Form class 2 may appear in the case frame _____ + A but not in the case frame _____ + O + A.

F_2:

nofo	(sit)
savali	(walk)
moe	(sleep)
alu	(go)
fa'ali'i	(be headstrong)
ta'oto	(lie down)
uma	(has disappeared or is finished)

---

* The definitions given here are definitions of the words as used by Tofi and do not necessarily correspond to the complete definition that might be given them by adult Samoans.

Form class 3 includes all the animate nouns* which may serve to enter into relationships as agent, object, and benefitor, with verbs, or may serve as possessors, possessed, or labels in naming utterances.

F_3:

pepe	(baby or doll)
Punefu	(a name)
teine	(girl)
Usu	(a name)
Siaoloau	(a name)
'oe	(you)
a'u	(I)
ta'avale	automobile)
tama	(boy)

Form class 4 includes the inanimate nouns which may serve as objects or locations in relationships with verbs or as objects possessed in possessive naming utterances.

F_4:

ofu	(clothing)
i'e	(cloth)
vae	(foot or feet)
mea	(thing)

---

*Since *pepe* here refers to a doll it is not actually animate, but it seems to be viewed by Tofi as having all the relational possibilities and semantic attributes of an animate noun. *Ta'avale* is, of course, not an animate noun but may occasionally function in any of the relationships here. As Tofi's vocabulary expands to include a number of these kinds of nouns, a separate Form class would have to be set up for them.

sami	(sea)
lole	(candy)
isi	(other thing)
lima	(hand)
mata	(eye)

4.5 The Grammar

Combining the Rules I through XIX, discussed above, we have a grammar which accounts for most of the utterances produced by Tofi and which describes the semantic relationships underlying those utterances:

$$\mathrm{S} \longrightarrow (\mathrm{M}) + \begin{Bmatrix} \mathrm{N} \\ \mathrm{Pred} \end{Bmatrix}$$

$$\mathrm{Pred} \longrightarrow \left\{ \begin{array}{l} V_1 + (\mathrm{O}) + \begin{Bmatrix} \mathrm{A} \\ \mathrm{Loc} \\ \mathrm{Ben} \end{Bmatrix} \\ V_2 + (\mathrm{A}) + (\mathrm{Loc}) \\ V_3 + \mathrm{O} + (\mathrm{Loc}) \\ V_4 + \mathrm{O} + \mathrm{A} \end{array} \right\}$$

$$\mathrm{M} \longrightarrow \left\{ \begin{array}{l} \mathrm{Neg} \\ \mathrm{Int} \\ \mathrm{Manner} \\ \mathrm{Desire} + (\mathrm{Intensity}) \end{array} \right\}$$

$$\mathrm{N} \longrightarrow \left\{ \begin{array}{l} \mathrm{Poss} \\ \mathrm{Labl} + (\mathrm{Loc}) \end{array} \right\}$$

$$V_1 \longrightarrow F_1$$

$$V_2 \longrightarrow F_2$$

$$V_3 \longrightarrow \underline{\text{pa'ū}}$$

$$V_4 \longrightarrow \underline{\text{fia}}$$

$$A \longrightarrow F_3$$

$$O \longrightarrow \left\{\begin{matrix} F_3 \\ F_4 \end{matrix}\right\}$$

$$\text{Loc} \longrightarrow \left\{\begin{matrix} F_4 \\ \underline{\text{lalo}} \\ \underline{\text{lea}} \end{matrix}\right\}$$

$$\text{Ben} \longrightarrow F_3$$

$$\text{Poss} \longrightarrow \left\{\begin{matrix} F_3 \\ F_4 \end{matrix}\right\} + F_3$$

$$\text{Labl} \longrightarrow \underline{\text{'o}} + F_3$$

$$\text{Neg} \longrightarrow \underline{\text{aua}} + \text{Verb}$$

$$\text{Int} \longrightarrow \underline{\text{fea}} + \text{labl}$$

$$\text{Manner} \longrightarrow S + \underline{\text{penā}}$$

$$\text{Desire} \longrightarrow \underline{\text{fia}} + S$$

$$\text{Intensity} \longrightarrow S + \underline{\text{lava}}$$

4.6 Utterances Not Accounted For by the Grammar

A number of utterances produced by Tofi are not accounted for by the grammar. Some of the utterances are not accounted for because their semantic interpretation is not clear. That is, there is nothing about their form nor the context in which they were uttered which will permit an unequivocal interpretation of them. These utterances are:

pepe *pulu* *i'e*
pulupulu *i'e*
ta'oto *i* *pulu* *i'e*

These utterances were produced while Tofi was covering her doll, which was lying on a mat, with a piece of cloth. *Ta'oto* is a verb meaning "to lie down". *Pulu* and *pulupulu* both translate as a verb meaning "to wrap oneself in something". However, *pūlu* and *pūlupulu* both translate as a noun meaning a "shawl". *I'e* in this context means "cloth" (Milner 1966). It is difficult to even determine the meaning of the lexical items and impossible to determine the semantic relationship between them. The same is true of the utterances:

savali *ia* *o* *se* *a'u*
pa'ū *se* *a'u*
avatu *loa* *naua*
ma *pepe* *solofanua* *lava*

Some of these lexical items are translatable and are appropriate to the context, but others are not. What the semantic relationships are between the elements in any of the utterances is entirely unclear.

Ta'oto ia is understandable. However it represents a stylistic feature which conceivably could be accounted for in a grammar, but traditionally is not. *Ta'oto* means "to lie" and *ia* serves here as an emphasizer. Tofi was commenting that something was *really* lying down. When *ia* is used in this way the penultimate syllable of the word it follows is stressed and greatly lengthened. What Tofi actually said was something like *ta'ooooto ia.* This same technique may be used with nouns. Tofi once as an insult said that her sister had *uuuuutu ia*, meaning *very very* many lice. This stylistic technique is not unique to Tofi but is a feature of the Samoan language.

Tofi twice produced the utterance *pepe moe*, reversing the word order of the normal *moe pepe* (baby sleeps). There was no discoverable difference in the meaning of these two utterances.

The use of exclamations and vocatives is not explained by the grammar for Tofi. Exclamations take the forms *oka* and *ue* and are used to convey surprise or the fact that the speaker has been startled. Tofi's exclamations appear at the beginning of sentences.

Examples are:

oka, *pa'ū* *mea*	(oh! thing fell)
Ue, *pa'ū* *pepe* *o* *sami*	(oh! baby fell in the sea)

The vocatives used by Tofi are proper names. She used them twice with verbs when making a request of someone and twice with nouns when calling someone's attention to the object named by the noun. The utterances including vocatives are:

Punefu, *pepe*	(Punefu, baby)
Kelina, *lapiti*	(Kelina, rabbit)
fa'atali, *Siaoloau*	(wait, Siaoloau)
fa'apea, *pepe*	(like this, baby)

It is of interest to note that in this limited sample the vocatives used with nouns occur initially, and the vocatives used with verbs occur finally.

In addition to the utterance *pepe moe*, there are two other utterances which appear in a word order which is the reverse of the normal one. These utterances are *pepe gau* and *vae tu'itu'i*. *Pepe* translates as "baby", *gau* as "bend" or "sprain", *vae* as "feet", and *tu'itu'i* as "hit". *Pepe gau* was said rather excitedly and complainingly, when she and her sister were both pulling at a doll attempting to gain possession of it. *Vae tu'itu'i* was said complainingly after I had accidentally kicked her foot. These would seem to be transitive verbs and objects. Possibly the reverse word order is the result of the function of the utterance; that is, a complaint. Ideally the function of the utterance should be included as part of the semantic structure of the sentence since the function of any utterance is part of its meaning. Moreover, the function of an utterance may have some determining effect upon the form of the utterance. We have shown that this may be the case with the utterances pepe gau and vae tu'itu'i. It is certainly the case that the function of demand influences the shape of utterances. In both English and Samoan no agent appears in most utterances which are demands.

No attempt has been made here, however, to include functions as part of the model used to describe children's speech. Functions may exist on a number of different levels and the task of identifying them all is too great to be attempted here. A single utterance can have a number of functions: such as a demand that is also a threat; an insult or a question that is also a plea for attention. In Appendix A Tofi's utterances have been assigned simple functions but no attempt has been made to do a detailed analysis.

Another aspect of Tofi's speech is the single appearance of the nominalizing 'O, of le, and of the pluralizing 'O. Also, there are a number of occurrences of vowel sounds such as /e/ and /o/ which are not accounted for. These seem to be the precursors of what will later become function words such as prepositions and verbal particles. Their distribution in the data does not indicate that any particular vowel sound serves as some sort of word class marker, however.

Finally, no attempt was made in the model to describe the two examples of modification that appear in the data: _'aumai_ _mea_ _isi_ (bring other thing); and _'avatu_ _pepe_ _toi_ (give toy baby, i.e., doll).

4.7 Summary

Tofi, then, has learned to express semantic relationships which involve either simple naming or the use of one of four different types of verbs. Semantic relationships expressed in predication are agentive, objective, locative, and benefactive. Both naming and predication utterances may be expressed in the modalities of negation, interrogation, manner, desire, or intensity.

The data from Tofi not only differs from that of Sipili in exhibiting a greater mean morpheme length of utterances, but in the use of more kinds of semantic relationships in single utterances. It will be recalled that the greatest number of semantic relationships expressed by Sipili in any one utterance was two, and that this combination consisted of a relationship of possession plus a relationship of location in three of the four utterances which expressed more than a single relationship.

Tofi, on the other hand, frequently produced utterances which included a verb and which expressed two other elements in semantic relationships to that verb. Moreover, these utterances were often expressed in a specific modality. Also, the great majority of Tofi's utterances are instances of predication while for Sipili exactly the opposite is true. Most of the utterances produced by him are instances of simple naming behavior.

While it is true that the nature of the utterances produced by the two children was somewhat a function of the setting in which they were spoken, it would also seem to be true that Tofi is more linguistically advanced than Sipili, and is capable of producing utterances which express a greater number of semantic relationships. On the basis of the data collected, it would appear that Sipili is still in a stage of linguistic development in which naming behavior plays a major role. Tofi has developed beyond this stage and is more able to express semantic relationships between elements.

CHAPTER 5

CONCLUSION

We have attempted to show in this paper that it is both possible and desirable to approach the study of the acquisition of language from the point of view of the semantic relationships expressed at any particular point in the acquisition process. Models have been written to describe the utterances produced by two children: models which have described the semantic relationships implied by the utterances.

Such models overcome the limitations of the two other principal approaches to the analysis of child language in that they describe the hierarchical relationships between elements of an utterance, and do so in such a way that reduction rules, which make the underlying structure more complex than the surface structure and which later must be "unlearned", are not needed as a part of the model. Semantic models incorporate as a part of their structure the meaning of the utterances they describe. Pivot grammars and generative grammars do not include meaning in their structure though they depend upon it for their construction and interpretation. Moreover, meaning is necessarily considered in the utilization of such models in any attempt to discover the process and means whereby a child acquires its language. Braine (1963) is careful to point out that the utterance bye bye airplane means something like "airplane is gone" and then labels the elements P and O as if the child had developed the ability to put a P and an O together rather than to express the observation that the airplane had gone. Bloom (1968) goes to painstaking lengths to assure a correct understanding of what meaning the child intends to convey yet she postulates combinations of semantic relationships which are never expressed in the child's speech. Carried to its extreme, such an approach might claim that a child who never uttered a sentence of more than one word, but whose vocabulary included the words mama, baby, and give, was expressing a NP (mama), a VP (give), a NP dominated by the VP (milk), and an embedded sentence (Give to baby) when it screamed milk. A child acquires his language principally because it is useful for him to do so. It is useful because it conveys meaning. The ontogeny of his ability to express meanings is the ontogeny of his acquisition of his language. It seems sound, if one is interested in describing a stage in the acquisition, to be concerned with the semantic relationships a child expresses as well as the way in which he expresses them.

The consideration of the semantic relationships expressed by the child has also allowed us to postulate that the general mechanisms whereby such relationships and the strategies for expressing them may be learned. We are not forced by the very nature of the model, as are the generative grammarians, to come to the conclusion that such abilities must be innate to the child since they are not inferable. This fact at least permits research on the mechanisms and processes of language acquisition and does not confine one to a description of the unfolding of innate capabilities.

Of course, what has been presented here does not deal with semantic relationships only. The order of the lexemes in the surface structure of the utterances is also described by the postulated grammars. This ordering and the consideration of inflections has been what has been primarily studied by researchers investigating the acquisition of language by children. In other words, what researchers have been primarily interested in is the acquisition of syntax. Such studies, of course, have their merit and need no justification other than an interest in the topic on the part of the researcher. The point is not that semantics rather than syntax should be the proper area of investigation. Nor is the point that semantics as well as syntax should be studied. Rather, the claim here is that to understand the process of acquisition, and even to write a formal model of the child's syntactic ability at any stage of his acquisition of language, semantics must be considered and must be a part of that model.

REFERENCES CITED

Argoff, David
n.d. Outline of Samoan grammar. Unpublished manuscript.

Bever, T., J.A. Fodor, and W. Wesbel
1965 On the acquisition of syntax: a critique of "contextual generalization". Psychological Review 72:6:467-482.

Bloom, Lois Masket
1968 Language development: form and function in emerging grammars. Dissertation Columbia University.

Braine, Martin
1963 The ontogeny of English phrase structure: the first phase. Language 39:1-13.

Churchward, S.
1951 A Samoan grammar (2nd ed.). Melbourne.

Ervin-Tripp, S
1966 Language development. In Review of child development research 2:55-105. M. Hoffman and L. Hoffman, eds. Ann Arbor, University of Michigan Press.

Fillmore, Charles
1968 The case for case. In Universals in linguistic theory. Edmon Bach and Robert T. Harms, eds. New York, Holt, Rinehart and Winston.

Katz, J.J. and P.M. Postal
1964 An integrated theory of linguistic descriptions. Cambridge, Massachusetts, M.I.T. Press.

Leopold, W.F.
1952 Bibliography of child language. Evanston, Illinois, Northwestern University Press.

Marsack, C.C.
1962 Teach yourself Samoan. London.

McCarty, D.
1959 Research in language development: retrospect and prospect. Mon. Soc. Res. Child Development, vol. 24, no.5.

McNeill, David
1966 Developmental psycholinguistics. In The genesis of language. F. Smith and G.A. Miller, eds. Cambridge, Massachusetts, M.I.T. Press.

Miller, Wick, and Susan Ervin
1964 The development of grammar in child language. In The acquisition of language. U. Bellugi and R. Brown, eds. Monographs of the Society for Research in Child Development 29:9-33.

Milner, G.B.
1966 Samoan Dictionary. London, Oxford University Press.

Pratt, George
1893 Grammar and dictionary of the Samoan language. Malua.

Schlesinger, I.M.
In Press Production of utterances and language acquisition. In Ontogenesis of grammar. Dan I. Slobin, ed. New York, Academic Press.

Slobin, Dan I.
1966 The acquisition of Russian as a native language. In The genesis of language F. Smith and G.A. Miller, eds. Cambridge, Massachusetts, M.I.T. Press.

1967 A field manual for cross-cultural study of the acquisition of communicative competence. Berkeley.

Appendix A: Utterances of more than one word in the data from Tofi

The utterances are classified under headings which indicate the semantic relationship between the elements of the utterance. Each utterance is followed by a gloss and a statement as to its function. The number preceding the utterance indicates the number of times it appeared in the corpus.

V_1 + Object

	'aumai mea isi	(bring other thing)	Demand
2	'aumai isi	(bring other)	Demand
	tia'i mea	(get rid of thing)	Demand
26	mai pepe	(bring baby)	Demand
4	ta'ita'i lima	(hold hand)	Demand
2	ese lima	(move away hand)	Demand
	tu'u lima	(put down hand)	Demand
	'avatu pepe toi	(give doll)	Demand
	va'ai le lima	(look at the hand)	Demand
7	e (o) fo'e lole	(unwrap candy)	Demand
	si'isi'i pepe	(hold baby)	Demand
2	si'isi'i tama	(hold boy)	Demand
	si'isi'i teine	(hold girl)	Demand
3	mai lole	(bring candy)	Demand
	fi vae	(cross legs	Demand
	fai pepe	(do baby)	Demand

V_1 + O + Manner

	fi vae penā	(cross legs like this)	Demand

V_1 + O + A

	tia'i pepe 'oe	(you got rid of baby) i.e., dropped	Describe event

$V_1 + O + A + Desire$

	Fia 'ai lole pepe	(baby wants to eat candy)	Describe state

$V_1 + O + Loc$

	aumai pepe lea	(bring baby there)	Demand
3	mai pepe lea	(bring baby there)	Demand
	mai mea lea	(bring thing there)	Demand

$V_1 + O + Ben$

2	mai lole pepe	(bring candy for baby)	Demand

$V_1 + A$

	mai Usu	(Usu brought)	Describe event
	mālō Usu	(Usu won)	Describe event
2	ave Siaoloau	(Siaoloau took)	Describe event
4	ti'eti'e teine	(girl rides)	Describe event

$V_1 + Loc$

	tu'u lalo	(put down)	Demand
2	mai lea	(bring there)	Demand
	ave ese	(take elsewhere)	Demand
	lifo lalo	(set down)	Demand

$V_2 + A$

	o nofo ia pepe	(baby sits)	Describe event
	o nofo pepe	(baby sits)	Describe event
	uma mea	(thing is finished)	Describe state

2	savali pepe	(baby walks)	Describe event
19	e (o) moe pepe	(baby sleeps)	Describe state
2	fa'ali'i pepe	(baby is headstrong)	Describe state
4	alu ta'avali	(car goes)	Describe event

V_2 + A + Loc

	alu Usu lea	(there goes Usu)	Describe event

V_2 + Loc

2	alu lea	(go there)	Demand

V_2 + A + Desire

	fia moe pepe	(baby wants to sleep)	Describe state

V_2 + Desire

	fia moe	(wants to sleep)	Describe state

V_2 + Neg

	'aua fa'ali'i	(don't be headstrong)	Demand

V_2 + Desire + Intensity

2	fia moe lava	(want very much to sleep)	Describe state

V_3 + O

2	Oka, pa'ū mea	(Oh, thing fell)	Describe event
	pa'ū mea	(thing fell)	Describe event

7	Ue, pa'ū mea	(oh, thing fell)	Describe event
8	Ue, pa'ū teine	(oh, girl fell)	Describe event
	pa'ū lole	(candy fell)	Describe event
4	pa'ū ta'avale	(car fell)	Describe event

V_3 + O + Loc

Ue, pa'ū pepe o sami	(oh, baby fell in sea)	Describe event
ue, pa'ū pepe lalo	(oh, baby fell down)	Describe event

V_3 + O + Desire

fia pa'ū pepe	(baby wants to sleep)	Describe state

V_4 + O + A

fia ofu pepe	(baby wants clothes)	Describe state

Possession

pepe 'oe	(your baby)	Name
'O mata pepe	(baby's eyes)	Name

Label

'O pepe	(baby)	Name

Label + Loc

Keith lea	(Keith is there)	Locate

Label + Loc + Q

Fea Punefu?	(Where is Punefu)	Where question

3	Fea pepe?	(where is baby)	Where question

Vocative + Noun

2	Punefu, pepe	(Punefu, baby)	Name
	Kelina, lapiti	(Kelina, rabbit)	Name

Vocative + Verb

fa'atali, Siaoloau	(wait, Siaoloau)	Demand
fa'apea pepe	(like this, baby)	Demand

Uninterpretable utterances

ta'oto i pulu i'e
pepe pulu i'e
pulupulu i'e
savali ia o se a'u
avatu loa maua
pa'u se a'u
ma pepe solofanua lava
pepe moe
pepe gau
vae tu'itu'i